DEC/FY06

FORT LEAVENWORTH

Kansas

Army Defense Environmental Restoration Program Installation Action Plan

Final 31 July 2006

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Statement of Purpose

The Fort Leavenworth Installation Restoration Program (IRP) manages all environmental restoration work on Fort Leavenworth. The Defense Environmental Restoration Program (DERP) and IRP and Military Munitions Response Program (MMRP) are Army programs established to address contaminated sites. Both programs are funded from the (ER,A) account. DERP addresses sites that closed before 1986. The Military Munitions Response Program (MMRP) addresses all sites contaminated by ordnance and munition constituents on ranges that are closed, transferred, or transferring. The Compliance-related Cleanup Program (CC), a new program, was established to address the remediation of all sites requiring cleanup under federal and state environmental regulations that are not covered under DERP. This program uses Army Operations and Maintenance Account (OMA) funds. This document does not address CC sites.

The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held December 6, 2005:

Company/Installation/Branch
ARCADIS
Engineering & Environment, Inc. for Fort Leavenworth
Engineering & Environment, Inc. for USAEC
Environmental Protection Agency – Region VII (7) (EPA)
Fort Leavenworth
Installation Management Agency – Northwest Region (IMA-NWRO)
Kansas Department of Health and Environment – Bureau of Environmental Remediation (KDHE-BER)
US Army Corps of Engineers – Kansas City District (USACE)
US Army Environmental Center (USAEC)

Acronyms & Abbreviations

AEDB-R	Army Environmental Database – Restoration
AEHA	Army Environmental Hygiene Agency
AOC	Area of Concern
AST	Aboveground Storage Tank
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BRAC	Base Realignment and Closure
CAMU	Corrective Action Management Unit
CAP	Corrective Action Plan
CC	Compliance-related Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CMI	Corrective Measures Investigation
CMI(C)	Completion of Corrective Measure Implementation
CMI(O)	Operation of Corrective Measures Implementation
CMS	Corrective Measures Study (FS in CERCLA)
COC	Contaminants of Concern
Cr	Chromium
CRP	Community Relations Plan
CS	Confirmatory Sampling
CTC	Cost-to-Complete
cy	cubic yards
DA	Department of Army
DEH	Directorate of Engineering and Housing
DES	Corrective Measures Implementation Design
DERA	Defense Environmental Restoration Account (now called ER,A)
DERP	Defense Environmental Restoration Program
DD	Decision Document
DOD	Department of Defense
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office, Branch of Defense Logistics Agency
DSERTS	Defense Site Environmental Restoration Tracking System (now AEDB-R)
DSMOA	Defense-State Memorandum of Agreement
ECAS	Environmental Compliance Assessment System (now called EPAS, Environmental Program Assessment System)
E&E	Ecology & Environment, Inc.
EE/CA	Engineering Estimate/Cost Analysis
EPA	(United States) Environmental Protection Agency Region 7
EPR	Environmental Program Requirements
ER,A	Environmental Restoration, Army (formerly called DERA)
FAWQC	Federal Ambient Water Quality Criteria
FFA	Federal Facility Agreement
FFSRA	Federal Facility Site Remediation Agreement
FS	Feasibility Study

Acronyms & Abbreviations

ft	foot
ft^2	square feet
FTL	AEDB-R Code for Fort Leavenworth
FY	Fiscal Year, Federal Government (1 October to 30 September)
gal	gallon
gpd	gallons per day
GW	Groundwater
GFPR	Guaranteed Fixed-Price Remediation
HQ	Head Quarters
HRS	Hazard Ranking System
IAP	Installation Action Plan
IMA-NWRO	Installation Management Agency – Northwest Regional Office
IRA	Interim Remedial Action
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IROD	Interim Record of Decision
IRP	Installation Restoration Program
ITS	Intertek Testing Services
IWTP	Industrial Wastewater Treatment Plant
JP-4	Jet Propellant Number 4, 60% gasoline and 40% kerosene
JP-8	Jet Propellant Number 8, 100% kerosene
K	$1,000
KAL	Kansas Action Levels (replaced by RSKs)
KCD	Kansas City Missouri Office, Corps of Engineers
KDHE-BER	Kansas Department of Health and Environment – Bureau of Environmental Remediation
kg	kilograms
KIRG	Kansas Interim Remedial Guidelines for Contaminated Soils
LTM	Long-Term Management
MC	Munitions Constituent
MCL	Maximum Contaminant Level
mg	milligrams
MMRP	Military Munitions Response Program
MON	Monitoring
MW	Monitoring Well
NE	Not Evaluated
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System

Acronyms & Abbreviations

NPL	National Priorities List
OB/OD	Open Burning / Open Detonation
OMA	Operations Maintenance Account
OU	Operable Unit
O&M	Operation & Maintenance
PAH	Poly Aromatic Hydrocarbons
PA/SI	Preliminary Assessment/Site Investigation
PBC	Performance Based Contracting
PCB	Polychlorinated Biphenyl
PCE	Perchloroethene or tetrachloroethylene
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum (budget)
PP	Proposed Plan
PRG	Preliminary Remediation Goals
PX	Post Exchange (Retail Sales and Service Centers)
PY	prior year
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RBCs	Risk-Based Concentrations
RC	Response Complete
RCI	Residential Construction Initiative
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFA	RCRA Facility Assessment
RFI/CMS	RCRA Facility Investigation/Corrective Measures Study
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy in Place
RMIS	Restoration Management Information System
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RSK	Risk-Based Standards of Kansas
SARA	Superfund Amendments and Reauthorization Act
SCAPS	Site Characterization and Analysis Penetrometer System
SI	Site Inspection
SoB	Statement of Basis
SR	Supervision of Remediation
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
S&A	Supervision and Administration
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation

Acronyms & Abbreviations

TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRADOC	US Army Training and Doctrine Command
TRC	Technical Review Committee
ug/l	microgram per liter
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center (formerly called USATHMA)
USAEHA	United States Army Environmental Hygiene Agency (now called USACHPPM)
USAEHA	United States Army Environmental Hygiene Agency, Aberdeen Proving Ground, Maryland
USATHMA	United States Army Toxic and Hazardous Material Agency (now called USAEC)
USACHPPM	United States Center for Health Promotion and Preventive Medicine
USDB	United States Disciplinary Barracks
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
yr	year

CERCLA and RCRA Acronym Conversions

CERCLA		RCRA
PA Preliminary Assessment	=	**RFA** RCRA Facility Assessment
SI Site Investigation	=	**CS** Confirmation Study
RI/FS Remedial Investigation/ Feasibility Study	=	**RFI/CMS** RCRA Facility Investigation/ Corrective Measures Study
RD Remedial Design	=	**CMD** Corrective Measures Design
RA(C) Remedial Action (Construction)	=	**CMI(C)** Corrective Measures Implementation (Construction)
RA(O) Remedial Action (Operations)	=	**CMI(O)** Corrective Measures Implementation (Operation)

Installation Information

Installation Locale: Fort Leavenworth is a 5,634-acre facility located on the west bank of the Missouri River. The official name of the facility is the United States Army Combined Arms Center and Fort Leavenworth. Fort Leavenworth serves as the home for the Command and General Staff College, National Simulation Center, U.S. Army Training and Doctrine Command (TRADOC) Analysis Center and the United States Disciplinary Barracks (USDB). The installation was established in 1827 and is the oldest continuously operating Army installation west of the Mississippi River. The installation is located in northern Leavenworth County Kansas, approximately 25 miles northwest of the edge of the Kansas City metropolitan area, which has a combined population of about 1.5 million people.

Installation Mission: Fort Leavenworth supports the TRADOC whose primary mission on the Fort is the training of officers for staff work. This is done at the Command and General Staff College. The other large mission is the long-term confinement of military prisoners in the United States Disciplinary Barracks. Other significant activities on the Fort include coordination of combined arms collective training and the National Simulation Center.

Lead Organization: *Garrison Command Reports to IMA-NWRO*
Installation: Fort Leavenworth

Regulatory Participation:
FEDERAL: Environmental Protection Agency (EPA), Region VII, Air, Resource Conservation Recovery Act (RCRA), and Toxics Division
STATE: KDHE-BER

Regulatory Status: RCRA Part 2 Permit: Fort Leavenworth operates under a Kansas-issued RCRA Permit with a Corrective Measures Section. The permit covers all active sites listed in this document.

NPL Status: No National Priorities List sites have been identified at Fort Leavenworth.

RAB/TRC/TAPP Status: Fort Leavenworth does not have a Restoration Advisory Board or Technical Review Committee, or participates in the Technical Assistance for Public Participation program.

Program Summaries:
IRP Contaminants of Concern: Metals, Volatile Organic Compounds (VOCs), Semi Volatile Organic Compounds (SVOCs), Total Petroleum Hydrocarbons (TPH), and Explosive Residues
Media of Concern: Soil, Groundwater, Surface Water, and Sediment
Estimated date for RIP/RC: 2012 (based in AEDB-R)
Funding to Date: (inception-FY05): $26,936,320
Current year funding (FY06): $ 193,571
Cost To Complete (CTC): $ 5,556,000

MMRP Contaminants of Concern: Munitions Constituents (MC)
Media of Concern: Soil
Estimated date for RIP/RC: 2017

Funding to Date(inception-FY05):	$ 25,000
Current year funding (FY06):	$ 679,497
CTC:	$2,333,000

BRAC - There are no BRAC sites at Fort Leavenworth.

Cleanup Program Summary

Historic Activity:

Fort Leavenworth is located on the west bank of the Missouri River about 25 miles northwest of downtown Kansas City, Missouri. The Missouri River marks the northern and eastern boundary of the Fort. The city of Leavenworth is located on the south boundary of the Fort. On the southwest side of the installation is the United States Penitentiary Leavenworth that was built by prisoners from the Fort. Open farmland is to the west.

- Fort Leavenworth was established by Colonel Henry Leavenworth, his officers and men of the 3rd Infantry Regiment in 1827. Its mission was to administer the land to the west belonging to the Indian Tribes, maintain the peace between the Indian Tribes and to protect travelers along the Santa Fe and Oregon Trails.

- The Fort was the outfitting post for the troops fighting the war with Mexico in 1848.

- During the Civil War, Fort Leavenworth was an important depot as well as the major base of operations for Union Forces in the West.

- Centrally located, Fort Leavenworth became the primary depot for supplies destined for western military posts. It was the primary base for two of the four United States Colored Troop regiments that fought in the Indian conflicts.

- In 1875, the U.S. Disciplinary Barracks was established to house military prisoners. Today it is the only long-term maximum-security confinement facility for the Department of Defense.

- The School of Application for Cavalry and Infantry, which later evolved into the Command and General Staff College, was established by General William T. Sherman in 1881. Graduates of the school excelled in planning complex Expeditionary Forces Operations in World War I.

- In 1946, the school's name changed to the Command and General Staff College.
- In 1959, Bell Hall was constructed to house the college. The new college, known as Lewis & Clark Hall, is currently under construction and is scheduled for occupancy during Fall 2007.

- Fort Leavenworth continues to be on the leading edge of the Army's future. The community's pride in its history of service to the Army and the nation is matched by its readiness to meet the challenges of the future.
- Due to Fort Leavenworth providing a full range of services to its residents, much of the environmental contamination is similar to other civilian communities (i.e.: landfills, pesticide mixing areas, Underground Storage Tank (UST) sites, etc.)

Cleanup Program Summary

STATISTICS
The Fort Leavenworth Public Affairs Office compiled the following statistics:
Size of Fort: 5,634 acres
Fort's Population: Total Military: 3,226
Family Members on Fort: 4,111
USDB Inmates: 449
Total Civilian Employment: 2,292
Financial Impact: Military Payroll: $157,271,843
Civilian Employees: $16,285,510
FY02 Expenditures, excluding payrolls: $217,880,900
Number of Annual Visitors (estimated): 93,543

Current Activity: FTL-02 & 03 sites are having an Interim Remedial Action (IRA) with anticipated completion date during FY2006. Seven IRP sites (FTLs 07, 10, 11, 15, 20, 24 & 60) are under investigation with the anticipation of a total of eight sites, seven IRP and one CC, will reach the remedy selection phase called the Statement of Basis (SoB) during FY2006. These will be the second group of SoBs for the Fort Leavenworth RCRA Part 2 Permit. Work on two IRP sites (FTLs 57 & 69) that are in the FY06 option to the Guaranteed Fixed Price Remediation (GFPR) contract has started with the third IRP site (FTL-08) anticipated to start during the summer of 2006.

Program Progress:

IRP: All of the IRP sites addressed in this document that need additional work are included in the GFPR Contract.

MMRP: No work has been completed at the MMRP sites. Fort Leavenworth is scheduled for a MMRP site investigation in FY06.

BRAC: There are no Base Realignment and Closure (BRAC) sites at Fort Leavenworth.

FORT LEAVENWORTH

Installation Restoration Program

IRP Summary

Status: No NPL sites have been identified at Fort Leavenworth. Remediation under RCRA Permit confirmed soil, surface water, and groundwater contamination.

***AEDB-R Sites/Sites RC*:** 71/47*

Different AEDB-R Site Types:

1	Above Ground Storage Tank	3	Contaminated Buildings	9	Landfill
1	Contaminated Ground Water	3	Firing Range	5	Incinerator
3	Sewage Treatment Plant	3	Surface Disposal Area	8	Storage Area
8	Washrack	1	Waste Treatment Plant	4	Surface Runoff
4	Spill Site Area	2	Surface Impoundment/Lagoon		
15	Underground Storage Tank	1	Soil Contamination After Tank Removal		

* Seven (7) Sites have been transferred and are accounted in other environmental restoration reporting programs (Compliance Cleanup & MMRP).

Contaminants of Concern: Metals, SVOCs, Pesticides, Herbicides, VOCs, PAHs, Polychlorinated Biphenyls (PCBs), and TPH

Media of Concern: Surface Water, Groundwater, Soil, and Sediment

Completed REM/IRA/RA:
RA - UST removals (1990-1994) (Non-ER,A funds)
RA – FTL-45 (Non-ER,A funds)
RA - FTL-64 (Non-ER,A funds)
IRA - UST removals FTL-15, 16, 17, 18, 39, 50 & 51
IRA – FTL-05, FTL-06, FTL-29 and FTL-30

***Identified Possible REM/IRA/RA*:**
All sites are included in the Fort Leavenworth GFPR Contract.

Total ER,A Funding:

Prior Year (up to FY05):	$ 26,936,320
Current (FY06):	$ 193,571
Future (FY07+):	$ 5,556,000**

** Does not include Compliance Cleanup & MMRP program funding amounts.

Duration of IRP:		***Duration of MMRP:***	
Year of IRP Inception:	1988	Year of IRP Inception:	2003
Year of RA Completion:	2012	Year of RA Completion:	2017
Year of IRP Completion:	2042	Year of MMRP Completion:	2017

IRP Contamination Assessment

IRP Contamination Assessment Overview

There are 71 IRP sites, one MMRP site and six CC sites for a total of 78 sites currently being tracked by the Installation. This IAP addresses the DERP and MMRP sites. The solid waste management sites addressed in this IAP include: old landfills, contaminated sites, contaminated buildings, incinerators and other activities that have or had the potential for a significant impact on the environment. This section discusses those sites, which have a significant impact on the environment and future installation activities.

Sites that have been investigated for soil and/or groundwater contamination: FTLs 02, 03, 04, 05, 06, 07, 08, 10, 11, 15, 20, 24, 30, 57, 60, 65, 69, 70 & 71. Surface water and/or sediment concerns are located at: FTLs 02, 04, 05, 06, 20, 30, 60 & 65. Metals, SVOCs, VOCs, Herbicides and Pesticides contaminants are located in groundwater, surface water, soil and sediments. PCBs, PAHs and TPH contaminants have been investigated and identified in soil.

The site of primary concern on Fort Leavenworth is FTL-10 - Burn Pit, which is on the RCRA Permit. This site was used for firefighter training for many years. Used solvents were dumped on the ground and ignited. The surface area of this site is not large; however the soil below it has significant contamination with an associated groundwater plume below it. The groundwater contamination is of major concern, since Fort Leavenworth and other communities use the aquifer for drinking water. The extent of the groundwater contamination appears to be limited in nature and does not appear to pose an imminent threat to the users of this water. Due to the groundwater problems, this site has the highest priority of all the sites on the installation. The current investigations have located the plume and have generally determined the extent of the soil contamination. Future activities will include defining the profile and extent of the plume.

Landfills make up almost half of the active sites on the installation. This includes both sanitary and construction debris landfills. Remediation of the landfills will require the majority of the restoration program funds and efforts. All the landfills are part of the RCRA Permit. Seven of these landfills are DERP funded with another one (FTL-09) in the CC program, which is OMA, funded. These landfills all share a general concern of some contamination at the site and the need to properly close them. Remedial investigations have been completed on all these landfills. Most sites have been characterized sufficiently to allow the production of Corrective Measures Studies when appropriate. In a few cases, Engineering Evaluations and Cost Analysis documents have been produced. Five of these landfills (FTLs 02, 03, 04, 05 & 06) have reached the SoB process in June 2005.

There are sites identified in the RCRA Permit that are addressed in the CC Installation Action Plan (IAP). They are: FTL-09, Closed Active Sanitary Landfill; FTL-12, Used Oil Tank AST Near Bldg 305; FTL-13, Used Oil Tank UST Near Bldg 689; FTL-23, Mineral Settling Lagoons; FTL-63, DRMO Scrap Yard; and FTL-68, Weed Control Area, City of Leavenworth, Airport Operations.

Sites where Interim Remedial Actions or some investigation has been conducted include: FTL-20, Septic Tank at the USDB Greenhouse, FTL-30, Past Pesticide Area, USDB Farm, Near Bldg 413, FTL-60, Stripping Area South of USDB Greenhouse, FTL-70, Fuel Oil Leak site at the United States Disciplinary Barracks, and FTL-71, McClellan Avenue Maintenance Shop.

IRP Cleanup Exit Strategy

The GFPR contract addresses all nineteen sites covered by the IRP. The GFPR Contractor, ARCADIS has worked quickly to address the issues at each site and is working towards closure. Seventeen of the sites should be either "remedy-in-place" or "no further action" by 2009. FTL-10, which has groundwater contamination, will have a system in place by the Year 2009 to remediate the contamination. Twenty or more years may be required before the contamination level at this site has been reduced below screening criteria, which would allow this site to be classified as "Response Complete" (RC).

Previous Studies

1975

- Water Quality Monitoring Consulting No.24-L06-75/76, US Army Environmental Hygiene (USAEHA), Sep-75

1980

- Landfill Design and Permit Application, USAEHA, Jul-80

1983

- Installation Assessment of Combined Arms Center Report No. 327, Environmental Science and Engineering, Inc. (ES&E), Mar-83

1984

- Evaluation of Solid Waste Disposal Practices and Facilities, June 4-8, 1984, USAEHA, Nov-84

1987

- Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units, USAEHA, Feb-87

1988

- Specification for Conforming Storage Facility at DRMO, Bibb and Associates, Inc., Mar-88

1989

- Site Sampling Plan for Old Burn Pit Area Site FTL-10, Hunter/ESE, Inc., May-89
- Site Health and Safety Plan Old Burn Pit Area, Site FTL-10, Contract No.DACW41-87-D-0151, Hunter/ESE, Inc., May-89

1990

- Contamination Evaluation of Specific Solid Waste Management Units – Site Specific Sampling/Analysis/Quality Control/Quality Assurance Plan, O'Brien & Gere, Jan-90
- Contamination Evaluation of Specific Solid Waste Management Units – Site Safety and Health Plan, O'Brien & Gere, Jan-90
- Contamination Evaluation of Specific Solid Waste Management Units – Exhibit II Laboratory Report Volume 1 of 5 & Volume 2 of 5, O'Brien & Gere, Jan-90
- Contamination Evaluation of Specific Solid Waste Management Units – Exhibit II Laboratory Report Volume 3 of 5 & Volume 4 of 5, O'Brien & Gere, Jan-90
- Contamination Evaluation of Specific Solid Waste Management Units – Exhibit II Laboratory Report Volume 5 of 5 Additional Samples, Volume 1 of 1, O'Brien & Gere, Jan-90
- Contamination Evaluation of Specific Solid Waste Management Units – Appendices Exhibit I, O'Brien & Gere, Jan-90

1990, cont'd

- Sherman Army Airfield Solid Waste Management Unit 8 Field Sampling Plan, B&V Waste Science and Technology Corporation (B&V), May-90
- Transmitting Solid Waste Management Unit 8 Contamination Assessment, B&V, Sep-90
- Transmitting Solid Waste Management Unit 8 Contamination Assessment, B&V, Oct-90

1991

- Volume I Task 1 Report – Preliminary Site Investigation Hazardous Waste Site Remedial Investigation U.S.P., Geosystems Engineering & George Butler Associates, Aug-91

1992

- Golf Course Maintenance Building No. 84 Hazardous Materials Building USDB Greenhouse Buildings No. 398 & 399, Construction Solicitation and Specifications, Army Corps of Engineers Kansas City District (USACE-KC), Aug-92

1993

- Fort Leavenworth Sanitary Landfill Closure Sherman Site, USACE-KC, May-93
- Sanitary Landfill Closure Plan Sherman Site, USACE-KC, May-93
- Sanitary Landfill Closure Construction Solicitation and Specifications, USACE-KC, Jun-93

1994

- Contamination Evaluation of Specific Solid Waste Management Units – Final Report Volume 1 of 7 Engineering Report, Exhibit I – Site Surveys, O'Brien & Gere, Jan-94
- Contamination Evaluation of Specific Solid Waste Management Units – Final Report Vol 2 of 7 Exhibit II – Lab Report: Southwest Lab of Oklahoma, Inc. Vol 1 of 3, O'Brien & Gere, Jan-94
- Contamination Evaluation of Specific Solid Waste Management Units – Final Draft Report Vol 4 of 7 Exhibit II – Lab Report: Southwest Lab of Oklahoma, Inc. Vol 3 of 2, O'Brien & Gere, Jan-94
- Contamination Evaluation of Specific Solid Waste Management Units – Final Report Vol 7 of 7 Appendices, O'Brien & Gere, Jan-94
- Environmental Operations, Inc. Project #4654 Project Close-Out Report Stoddard Solvent Tank Removal, Environmental Remediation and Consulting, Feb-94
- Site Safety and Health Plan Groundwater Sampling Program, Burns & McDonnell Engineers – Architects – Consultants (Burns & McD), Oct-94
- Chemical Data Acquisition Plan Groundwater Sampling Program, Burns & McD, Oct-94
- Final Work Plans Volumes I & II for Contamination Evaluation for Old Skeet Range, Law, Oct-94
- Work Plan Removal Action Design Old Pesticide Area, Burns &McD, Oct-94

Previous Studies

1995

- 95 Design Analysis Contract No. DACW41-94-D-9002 Removal Action Design Old Pesticide Area FY 1995, Burns & McD, Jan-95
- 95 Percent Design Specifications Contract No. DACW41-94-D-9002 Removal Action Design Old Pesticide Area Fiscal Year 1995, Burns & McD, Jan-95
- Groundwater Monitoring Report October 1994 Sampling Event, Burns & McD, Apr-95
- Final Design Specifications Contract No. DACW41-94-D-9002 Removal Action Old Pesticide Area Fiscal Year 1995, Burns & McD, May-95
- Final Design Analysis Contract No. DACW41-94-D-9002 Removal Action Old Pesticide Area Fiscal Year 1995, Burns & McD, May-95
- Closure Report Building 431 US Army Corps of Engineers UST Removal Fort Leavenworth, Kansas USACE Contract DACW41-93-D-0037 Delivery Order No. 0010, HDB Construction, Inc, May-95
- Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996 and 1997, Burns & McD, Dec-95

1996

- Site Assessment Work Plan for the United States Disciplinary Barracks, Burns & McD, Mar-96
- Groundwater Potential Contamination Survey No. 38-26-0916-86, USAEHA, Mar-96
- Quality Control Summary Report Groundwater and Surface Water Monitoring Report December 1995 Sampling Event, Burns & McD, Apr-96
- Site Assessment Work Plan for the United States Disciplinary Barracks, Burns & McD, Apr-96
- Work Plan Hancock Landfill Site Investigation, Burns & McD, Apr-96
- Final Contamination Evaluation Report for Old Skeet Range, Law, Sep-96
- (Final) Groundwater and Surface Water Monitoring Report December 1995 Sampling Event, Burns & McD, Sep-96
- Groundwater and Surface Water Monitoring Report October 1996 Sampling Event, Burns & McD, Dec-96

1997

- Final Site Investigation Report Hancock Landfill, Burns & McD, Jan-97
- Final Quality Control Summary Report Hancock Landfill Volume I of II, Burns & McD, Jan-97
- Final Quality Control Summary Report Hancock Landfill Volume II of II, Burns & McD, Jan-97
- Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-02, Ecology and Environment, Inc. (E&E), Jan-97
- Final Site Assessment Report for the United States Disciplinary Barracks, Burns & McD, Feb-97
- Final Quality Control Summary Report for Site Assessment at the United States Disciplinary Barracks Volume I, Burns & McD, Feb-97

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- Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites, Burns & McD, Feb-97
- Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) 6 Sites Attachment A Field Sampling Plan, Burns & McD, Feb-97
- Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan, Burns & McD, Feb-07
- Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) 6 Sites Attachment D Quality Control Plan, Burns & McD, Feb-97
- Radiological Survey Work Plan Hancock Landfill, NAVSEADET RASO, Jul-97
- Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan, Burns & McD, Aug-97
- Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples, Burns & McD, Sep-97
- Radiological Survey Report Hancock Landfill, NAVSEADET RASO, Oct-97
- Quality Control Plan Annual Monitoring Program, Burns & McD, Nov-97
- Site Health and Safety Plan Annual Monitoring Program, Burns & McD, Nov-97

1998

- Chemical Data Acquisition Plan Addendum for the 1997, 98 and 99 Groundwater and Surface Water Sampling Program, Burns & McD, Feb-98
- Final Work Plan Addendum for the Phase 2 Site Investigation at the United States Disciplinary Barracks, Burns & McD, Feb-98
- Final Site Investigation Report for FTL-10 Closed Firefighting Practice Area, Burns & McD, Feb-98
- Final Quality Control Plan for Phase 2 Site Investigation Report for the United States Disciplinary Barracks, Burns & McD, Feb-98
- Final Draft Laboratory Investigation of Physical Separation and Chemical Extraction Treatment Alternatives for Soils Collected from the Old Skeet Range, Waterways Experiment Station, Feb-98
- Quality Control Plan Annual Monitoring Program, Burns & McD, Feb-98
- Investigation DRMO Scrap Yard, Burns & McD, Dec-98
- Final GW and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling, Burns & McD, Jan-99
- Directorate of Contracting DABT19-99-R-0002 Remove and Dispose of AST, USACE-KC, Aug-99
- Final Technical Memorandum Chemical Data Acquisition Plan Addendum for the 1999 Groundwater and Surface Water Sampling Event, Burns & McD, Aug-99

Previous Studies

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- Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan Installation Restoration Program Support, Burns & McD, Jun-00
- (Final) Quality Control Plan Installation Restoration Program Support, E&E, Jun-00
- Work Plan Addendum for the Risk Assessment for the Pond in Family Housing (FTL-65), Burns & McD, Sep-00
- (Partial) Field Sampling Plan for the DRMO Site Investigation, Burns & McD, Sep-00
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- Raw Water and Sediment Laboratory Results for FTL-65 Pond and Drainages, October 2000, Burns & McDonnell Engineers-Architects-Consultants, Nov-00
- Technical Memorandum Chemical Data Acquisition Plan Addendum No.3 for the 2000 Groundwater and Surface Water Sampling Event, Burns & McD, Nov-00
- (Partial) Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event, Burns & McD, Nov-00
- Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event, Burns & McD, Nov-00
- First Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event, Burns & McD, Nov-00
- Final Engineering Evaluation/Cost Analysis for FTL-5 Inactive Sanitary Landfill, Burns & McD, Nov-00

2001

- FTL-10 Data Summary, E&E, Jan-01
- Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event, Burns & McD, Feb-01
- Final Quality Assurance Project Plan for the DRMO Site Investigation, Burns & McD, Apr-01
- Quality Control Summary Report 2000 Risk Assessment for the Pond in Family Housing (FTL-65), Burns & McD, May-01
- Final Engineering Evaluation/Cost Analysis for FLT-6 Inactive Incinerator Landfill, Burns & McD, Jun-01
- ITS QA Data Comparison Report for the Site Investigation Report at the Disciplinary Barracks, Burns & McD, Jun-01
- Quality Control Summary Report for the DRMO Site Investigation, Burns & McD, Jul-01
- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-03, E&E, Oct-01
- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-24, E&E, Oct-01
- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-69, E&E, Oct-01
- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-08, E&E, Oct-01

2001 cont'd

- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-02, E&E, Oct-01
- Final Global Positioning System Survey and Geographical Information System Fort Leavenworth, Kansas, E&E, Nov-01
- Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-02, E&E, Nov-01
- Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-03, E&E, Nov-01
- Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-10/11, E&E, Nov-01
- Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-24, E&E, Nov-01
- Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event, Burns & McD, Nov-01
- Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-10, E&E, Nov-01
- Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-08, E&E, Dec-01

2002

- Final Site Investigation Report for the DRMO Scrap Yard (FTL-63), Burns & McD, May-02
- Final Sampling and Analysis Plan Addendum, ECC, Jun-02
- Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans, ARCADIS, Oct-02
- Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 1, ECC, Oct-02
- Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 2, ECC, Oct-02
- Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 3, ECC, Oct-02
- Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 4, ECC, Oct-02
- Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 5, ECC, Oct-02
- Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, ARCADIS, Dec-02
- Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans, ARCADIS, Dec-02

2003

- (Final) Quality Control Plan Supplement IRP and OMA Program Support, E&E, Mar-03
- Final Field Sampling Plan, Health & Safety Plan, & Quality Assurance Project Plan for IRP & OMA Program Support, E&E, Mar-03
- Firing Ranges and Associated Facilities, E&E, Apr-03
- Final Annual Groundwater Monitoring Report 2002 Annual Sampling Event, ECC, Apr-03
- Final Pilot Test Work Plans FTL-10, Old Firefighting Training Area and FTL-15, Stoddard Solvent Tanks, ARCADIS, May-03
- Background Soil Sampling Work Plan, ARCADIS, May-03
- Biological Characterization FTL-02, Inactive Demolition Landfill, Bundel Avenue, ARCADIS, May-03
- Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring, ECC, Jun-03
- Groundwater Monitoring Report, March/April 2003, ARCADIS, Jul-03
- Confirmatory Sampling Work Plan FTL-30, Past Pesticide Area, ARCADIS, Aug-03
- Final RFI Addendum FTL-04, Inactive Sanitary Landfill, Hancock Avenue, ARCADIS, Sep-03
- Final RFI Addendum FTL-65, Pond in Family Housing Area, ARCADIS, Sep-03
- Final Closed, Transferring and Transferred Range Site Inventory Report, EEM, Oct-03
- Final Characterization of Background Levels of Metals in Soil and Groundwater Technical Memorandum, ARCADIS, Oct-03
- (Final) FTL-68 Reports Evaluation, E&E, Oct-03
- Final Corrective Measures Study Report FTL-05, Inactive Sanitary Landfill, Hunt Kennels, ARCADIS, Oct-03
- Final Corrective Measures Study Report FTL-06, Inactive Incinerator Landfill, Girl Scout Area, ARCADIS, Oct-03
- Groundwater Monitoring Report – March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2), ARCADIS, Oct-03
- Groundwater Monitoring Report – June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2), ARCADIS, Oct-03
- Quarterly Report (July-September 2003) for DSMOA, KDHE, Oct-03
- Final (Revision 1) RFI Addendum FTL-65, Pond in Family Housing Area, ARCADIS, Oct-03
- Final (Revision 1) RFI Addendum FTL-04, Inactive Sanitary Landfill, Hancock Avenue, ARCADIS, Oct-03
- Final Closure Report FTL-30, Past Pesticide Area, ARCADIS, Nov-03
- Final RCRA Facility Investigation for Solid Waste Management Unit FTL-13, E&E, Dec-03
- Final (Revision 1) Corrective Measures Study Report FTL-05, Inactive Sanitary Landfill, Hunt Kennels, ARCADIS, Dec-03
- Final (Revision 1) Corrective Measures Study Report FTL-06, Inactive Incinerator Landfill, Girl Scout Area, ARCADIS, Dec-03

2004

- Final Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan Supplement IRP and OMA Program Support, E&E, Jan-04
- Final (Revision 1) Closure Report FTL-30, Past Pesticide Area, ARCADIS, Feb-04
- Groundwater Monitoring Report – September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2), ARCADIS, Feb-04
- Letter Report for FTL-09 Landfill Maintenance Activities, April 2004 OMA Support, E&E, Apr-04
- Final RFI Work Plan Addendum FTL-07, Inactive Sanitary Landfill, Behind Girl Scout Area, Fort Leavenworth, Kansas, ARCADIS, Jun-04
- Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas, ARCADIS, Jun-04
- Final FTL-68 Confirmation Sampling Report, Fort Leavenworth, Kansas, Ecology and Environment, Inc., Jun-04
- Final Construction Documents for FTL-05, Inactive Sanitary Landfill, Hunt Kennels, Fort Leavenworth, Kansas, ARCADIS, Jul-04
- Final Remedial Closure Construction Drawings FTL-05, ARCADIS, Jul-04
- Final Construction Documents for FTL-06, Inactive Incinerator Landfill, Girl Scout Area, Fort Leavenworth, Kansas, ARCADIS, Jul-04
- Final Remedial Closure Construction Drawings FTL-06, ARCADIS, Jul-04
- Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas, ARCADIS, Jun-04
- Final Corrective Measures Study Report, FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Leavenworth, Kansas, ARCADIS, Aug-04
- Final Construction Documents for FTL-05, Inactive Sanitary Landfill, Hunt Kennels – Revision 1, Fort Leavenworth, Kansas, ARCADIS, Aug-04
- Revised Final Remedial Closure Construction Drawings FTL-05, ARCADIS, Aug-04
- Final Construction Documents for FTL-06, Inactive Incinerator Landfill, Girl Scout Area – Revision 1, Fort Leavenworth, Kansas, ARCADIS, Jul-04
- Revised Final Remedial Closure Construction Drawings FTL-06, ARCADIS, Aug-04
- Final RCRA Facility Investigation for Solid Waste Management Unit FTL-12, Fort Leavenworth, Kansas, E&E, Sep-04
- Final Groundwater and Surface Water Monitoring Report for FTL-09, Inactive Landfill, July 2004 Sampling Event for OMA Support, Fort Leavenworth, Kansas, E&E, Nov-04

2005

- Final Soil Removal Design and Subcontract for FTL-12, Used Oil Tank, Building 305, Fort Leavenworth, Kansas, E&E, Jan-05
- Simulation of Ground-Water Flow, Contributing Recharge Area, and Ground-Water Travel Time in the Missouri River Alluvial Aquifer near Fort Leavenworth, Kansas, US Geological Survey, Feb-05
- Final Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, KS, ARCADIS, Mar-05

2005, cont'd

- Final (Revision 1) Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, Kansas, ARCADIS, Apr-05
- Final Construction Certification and Closure Report, FTL-05 Inactive Sanitary Landfill Hunt Kennels and FTL-06 Inactive Incinerator Landfill Girl Scout Area, US Army Combined Armed Center and Fort Leavenworth, KS, ARCADIS, Jun-05
- Final Remedial Closure Record Drawings FTL-05 Inactive Sanitary Landfill Hunt Kennels, ARCADIS, Jun-05
- Final Remedial Closure Record Drawings, FTL-06 Inactive Incinerator Landfill Girl Scout Area, ARCADIS, Jun-05
- Final Confirmation Sampling Report FTL-12, Fort Leavenworth, Kansas, E&E, Jul-05
- Final Groundwater and Surface Water Monitoring Report for FTL-09, Inactive Landfill, April 2005 Sampling Event, Fort Leavenworth, Kansas, E&E, Jul-05
- Final Contruction Documents FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Fort Leavenworth, Kansas, ARCADIS, Sep-05
- Final Remedial Closure Construction Drawings FTL-02 & FTL-03, ARCADIS, Sep-05
- Replaced Final Remedial Closure Construction Drawings FTL-02 & FTL-03, ARCADIS, Oct-05
- Supplemental Investigation Work Plan for FTL-71, Fort Leavenworth, Kansas, ARCADIS, Nov-05
- Final Corrective Measures Study Report FTL-10, Burn Pit, Old Firefighting Training Area, Fort Leavenworth, ARCADIS, Nov-05
- Final RFI Report FTL-11, Closed Fire Training Area, Fort Leavenworth, Kansas, ARCADIS, Nov-05
- Supplemental Investigation Work Plan for FTL-70, Fort Leavenworth, Kansas, ARCADIS, Nov-05
- Final RFI Report FTL-07, Inactive Sanitary Landfill, Behind Girl Scout Area, Fort Leavenworth, Kansas, ARCADIS, Dec-05

FORT LEAVENWORTH

Installation Restoration Program
Site Descriptions

FTL-02
INACTIVE LANDFILL

SITE DESCRIPTION

Site FTL-02 is an old construction/demolition landfill located on the southeast end of the Fort. The northern site boundary is One Mile Creek, which originates in the Normandy Family Housing Area and flows east to the Missouri River. The site is also bordered to the north by FTL-03, which starts on the North Side of the Creek. The eastern site boundary is an old government railroad right-of-way that is now a hiking trail. The southern boundary follows the hiking trail as it curves to the west. The western boundary is Bundel Road. There is family housing and a school to the west. The 2000 RCRA Facilities Investigation found the site to be approximately 4.6 acres in size.

The 1984 AEHA report stated that the landfill received demolition waste in 1982 and 1983, but indications are that it received wastes before then. The report recommended that it be permitted with KDHE, but there is no information that a permit was ever requested or received. The AEHA report estimated the site was about 3 acres in area, but subsequent investigations found it to be much larger. The site is fairly level with much of the area covered with trees.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: Low

CONTAMINANTS OF CONCERN: Metals, SVOCs, PCBs

MEDIA OF CONCERN: Surface Water, Groundwater, Soil, Sediment

Phases	Start	End
RFA	198702	199906
CS	199907	199912
RFI/CMS	200001	200411
DES	200409	200502
CMI(C)	200504	200709
LTM	200710	203709

RC DATE: 200710

The site was a water filled depression prior to filling. The area may have been used as a borrow area for soil to build Bundel Road, the Government Railroad track and the Union Pacific Railroad tracks. The resulting depression held stagnant water that was a breeding ground for mosquitoes. The report states that 28,000 cubic meters of construction demolition waste was placed in the site in 1983. The debris at that time was coming from a group of concrete block buildings located on the southwest corner of the intersection of Cody and Grant, but could have originated from any where on the Fort. The site supports many trees, but very little grass.

Concerns about lead during a 1987 inspection resulted in an assessment of the site. The Corps of Engineers in 1998 performed a Site Investigation that found some metals in soil exceeding several of the Kansas Interim Remedial Guidelines for residential use. Ecology and Environment, Inc, (E&E) performed a RCRA Facilities Investigation on the site in 2000. Their report was issued in the Spring of 2001. They found that the site is much larger than originally reported. The contamination levels were consistent with the Preliminary Assessment. PAHs and PCBs were detected in soil, exceeding screening criteria.

This site became part of the Guaranteed Fixed-Price Remediation (GFPR) Contract with ARCADIS in 2002. ARCADIS has completed a habitat evaluation for a risk assessment, cover evaluation, groundwater sampling, surface water sampling and sediment sampling and prepared a final Corrective Measures Study (CMS) in August 2004. Final remedial design EPA regulatory approval came in September 2005 with the contractor, ARCADIS, beginning remedial work in November 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The GFPR Contract funded all work on this site through closure. Due to the proximity and similar nature of FTL-03 the two sites are being remediated at the same time. The CMS has been finalized and the Statement of Basis was finalized in June 2005. The proposed remedy is a vegetative soil cover. This site is scheduled to be closed under EPA's *Corrective Action Complete with Controls* land use classification. Long-Term Maintenance (LTM) will include periodic groundwater monitoring and land use controls.

The Bundel Road expansion has impacted the western portion of the site and will serve as partial cover for the final remedy. Drainage design issues have been coordinated with the cover design.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is included in the Fort Leavenworth Land Use Controls Action Plan dated August 1, 2005. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., October 11, 2005, Replaced Final Remedial Closure Construction Drawings FTL-02 & FTL-03

ARCADIS, Inc., September 16, 2005, Final Remedial Closure Construction Drawings FTL-02 & FTL-03

ARCADIS, Inc., September 16, 2005, Final Construction Documents FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Fort Leavenworth, Kansas

Fort Leavenworth, August 1, 2005, Final Land Use Controls Action Plan

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-02 – Inactive Demolition Landfill, Bundel Road

ARCADIS, Inc., April 13, 2005, Revised Final Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, KS

ARCADIS, Inc., March 30, 2005, Final Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, KS

ARCADIS, Inc., August 12, 2004, Final Corrective Measures Study Report, FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 21, 2003, Groundwater Monitoring Report - March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., Jul y 25, 2003, Groundwater Monitoring Report - March/April 2003

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., May 28, 2003, Biological Characterization FTL-02, Inactive Demolition Landfill, Bundel Avenue

Ecology and Environment, Inc., March 13, 2003, (Final) Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan for IRP and OMA Program Support

ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volumes 1 through 5

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long Term Groundwater Monitoring

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Ecology and Environment, Inc., November 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations

Ecology and Environment, Inc., October 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-02

Ecology and Environment, Inc., January 2001, Quality Control Summary Report for Fort Leavenworth Investigations

Ecology and Environment, Inc., June 2000, Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan Installation Restoration Program Support

Ecology and Environment, Inc., June 1, 2000, (Final) Quality Control Plan Installation Restoration Program Support

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-03
INACTIVE LANDFILL

SITE DESCRIPTION

Site FTL-03 is a construction demolition landfill that has some large pieces of concrete at the surface. The northern site boundary is about 50 meters north of the intersection of Wint and Stimson Avenues. Further to the north is a steep embankment that slopes to the east until it reaches the Missouri River. The eastern site boundary is the abandoned government railroad right-of-way that comes from FTL-02 from the south and is now a hiking trail. Past the trail is an active Union Pacific Railroad track and the Missouri River. The southern boundary is One Mile Creek that forms the boundary between this site and FTL-02. The western boundary is Stimson Avenue. The closest development is family housing about 100 meters from the northwest corner and Bell Hall, which houses the Command and General Staff College. Features of note include a large abandoned natural gas pipeline running across the south side of the site and along the west side. The site has numerous steep slopes trending downhill to the river on the east and the creek on the south. The site is approximately 2 acres in size.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: Low

CONTAMINANTS OF CONCERN: Metals, PCBs, VOCs, SVOCs, Pesticides

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
RFA	198702	199806
CS	199807	199906
RFI/CMS	199907	200411
DES	200409	200502
CMI(C)	200504	200709
LTM	200710	203709

RC DATE: 200710

The history of this site is unclear. The 1983 AEHA study found that this site received waste in 1975. It consisted of clean fill comprised of soil, rocks, and concrete. There are locations where large pieces of concrete extend above the surface. The study reported that Fort Leavenworth had requested a permit for this site in May 1984. However, no records have been located to show that a permit was requested or any permit issued.

The 1988 AEHA report indicated that this site had a low hazard potential and did not require investigation. The 1997 Environmental Compliance Assessment Survey (ECAS) inspection recommended that this site be investigated based on a concern that even construction waste could contaminate the stream or river. The US Army Corps of Engineers performed and completed the Site Investigation in 1998. The investigation found levels of PCBs in soil above EPA's accepted screening levels. VOCs and SVOCs have been a concern with all of the restoration landfills and the regulators required testing for VOCs and SVOCs in soil and groundwater.

Ecology and Environment, Inc. performed a RCRA Facilities Investigation (RFI) in 2000 and submitted their final report in October 2001 recommending further investigation of FTL-03. The investigation reported that even though the extent of the landfill material appears to have been delineated, the extent of the contamination has not.

The perimeter of the landfill was defined by the geophysical survey during the RFI; however, high PCB detections at the north edge of the landfill indicate the extent of PCB contamination may extend further north and possibly west. The investigation also reported that aside from the fill material in the landfill, the abandoned natural gas pipeline located north of the target landfill might also be the source of PCBs.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

This site is part of the FY 2004 option to the ARCADIS Contract, which was funded in January 2004. The CMS has been prepared that combines the remedy for FTL-02 and FTL-03. The CMS has been finalized and the Statement of Basis was finalized in June 2005. The proposed remedy is a vegetative soil cover. This site is scheduled to be closed under EPA's *Corrective Action Complete with Controls* land use classification. LTM will include periodic groundwater monitoring and land use controls. The Bundel Rd expansion has impacted the western portion of the site and has been addressed in remedial design.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is included in the Fort Leavenworth Land Use Controls Action Plan dated August 1, 2005. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., October 11, 2005, Replaced Final Remedial Closure Construction Drawings FTL-02 & FTL-03

ARCADIS, Inc., September 16, 2005, Final Remedial Closure Construction Drawings FTL-02 & FTL-03

ARCADIS, Inc., September 16, 2005, Final Construction Documents FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Fort Leavenworth, Kansas

Fort Leavenworth, August 1, 2005, Final Land Use Controls Action Plan

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-03 – Inactive Demolition Landfill, Wint Avenue

ARCADIS, Inc., April 13, 2005, Revised Final Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, KS

ARCADIS, Inc., March 30, 2005, Final Site-Specific Health and Safety Plan FTL-02 and FTL-03, Inactive Demolition Landfills Bundel Road and Wint Avenue, Fort Leavenworth, KS

ARCADIS, Inc., August 12, 2004, Final Corrective Measures Study Report, FTL-02 and FTL-03, Inactive Demolition Landfills, Bundel Road and Wint Avenue, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Ecology and Environment, Inc., March 13, 2003, (Final) Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan for IRP and OMA Program Support

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, April 26, 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Ecology and Environment, Inc., November 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-03

Ecology and Environment, Inc., October 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-03

Ecology and Environment, Inc., June 2000, Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan Installation Restoration Program Support

Ecology and Environment, Inc., June 2000, (Final) Quality Control Plan Installation Restoration Program Support

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units,

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

FTL-04
INACTIVE SANITARY LANDFILL

SITE DESCRIPTION

Site FTL-04 is an inactive sanitary landfill. It is bordered on three sides by family housing. The northern border of the site is a soccer field and family housing. The eastern site boundary is family housing units that access via 3rd Infantry Road. The southern boundary is an open area with the Harold Youth Center at the end. The western boundary is Kansas Avenue. The site is divided north to south by a seasonal creek that extends up to Hancock Avenue on the north. From that point the creek runs through storm sewer pipe. The landfill is in the form of a U around the creek. The site is also divided east and west by Hancock Avenue on the north end. This landfill has been covered with soil and has a good cover of grass that is kept mowed in the summer. The Facilities Investigation found the site to be approximately 4.4 acres in size.

The landfill was active in the late 1940s to the early 1950s and contains general refuse. Houses were constructed around the site in the 1960s and 1970s. The 1988 AEHA Report stated that this site had a low hazard potential and did not require investigation. In 1993, a retired Fort Leavenworth employee stated that radioactive medical wastes might have been buried in this landfill. The site was investigated for chemical and radioactive contaminants based on this report.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: Low

CONTAMINANTS OF CONCERN: Metals, SVOCs, PAHs

MEDIA OF CONCERN: Surface Water, Groundwater, Soil, Sediment

Phases	Start	End
RFA	198702	198806
CS	199509	199701
RFI/CMS	199907	200411
IRA	199703	199711
DES	200409	200502
CMI(C)	200409	200505
LTM	200506	203509

RC DATE: 200505

Burns and McDonnell, Inc. performed a Site Investigation in 1996. The investigation consisted of borings and monitoring wells, but did not find any chemical levels above the screening levels used at that time. In the spring of 1997, the Naval Sea Systems Command surveyed the site for radioactive objects and located one radioactive source, a compass with radium painted dial. All other areas had normal background or below background levels of radiation. The compass was removed and shipped off-post using radioactive material disposal procedures.

This site was initially listed as DERA Response Complete based on the 1997 findings. However in 2000, regulatory agencies disallowed the use of the 1997 laboratory data for decision-making purposes because Intertek Testing Services (ITS) of Richardson, Texas performed the chemical analyses. This decision followed the disclosure by ITS of fraudulent manipulation of organic data on projects not related to Ft. Leavenworth.

This site became part of the Guaranteed Fixed-Price Remediation Contract with ARCADIS in 2002. ARCADIS has completed additional site characterization activities that included a cover evaluation, groundwater, sediment and surface water sampling in order to replace the questionable data and to evaluate the potential hazards posed by this site.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The GFPR Contract funded all work on this site through closure. Based on the additional site characterization information ARCADIS prepared a RFI report and baseline risk assessment. The RFI report recommended No Further Action for this site. The Statement of Basis (i.e., Decision Document) was finalized in June 2005. This site was closed under EPA's *Corrective Action Complete with Controls* land use classification. LTM includes periodic groundwater monitoring and land use controls. As part of the GFPR Contract option award, ARCADIS has begun 5-year warranty period starting on July 11, 2005.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is included in the Fort Leavenworth Land Use Controls Action Plan dated August 1, 2005. Future use of this site is expected to be limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

Fort Leavenworth, August 1, 2005, Final Land Use Controls Action Plan

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-04 – Inactive Sanitary Landfill, Hancock Avenue

ARCADIS, Inc., October 31, 2003, Final (Revision 1) RFI Addendum FTL-04, Inactive Sanitary Landfill, Hancock Avenue

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., September 18, 2003, Final RFI Addendum FTL-04, Inactive Sanitary Landfill, Hancock Avenue

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units, Fort Leavenworth, Kansas

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

NAVSEADET RASO, October 1997, Radiological Survey Report Hancock Landfill

NAVSEADET RASO, July 1997, Radiological Survey Work Plan Hancock Landfill

Burns & McDonnell Engineers-Architects-Consultants, January 1997, Final Site Investigation Report Hancock Landfill

Burns & McDonnell Engineers-Architects-Consultants, January 1997, Final Quality Control Summary Report Hancock Landfill Volume I of II

Burns & McDonnell Engineers-Architects-Consultants, January 1997, Final Quality Control Summary Report Hancock Landfill Volume II of II

Burns & McDonnell Engineers-Architects-Consultants, April 1996, Work Plan Hancock Landfill Site Investigation

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997

FTL-05
INACTIVE SANITARY LANDFILL

SITE DESCRIPTION

This landfill, which is about 8 acres in size, received sanitary solid waste. The north edge of the site is about 120 meters south of McPherson Avenue along a barbed wire fence. The kennel for the Fort Leavenworth Hunt's dogs occupies the area located between the road and the site. The east boundary is a barbed wire fence that is about 200 meters west of West Warehouse Road. The south boundary of the site is Quarry Creek. The west boundary is a barbed wire fence that runs primarily north and south from the Hunt Club Riding Arena. Access to the site is from McPherson Avenue down the road leading past the ammunition bunker and the riding arena.

This sanitary landfill was used from 1970 to 1977. A new sanitary landfill replaced this landfill (see FTL-09). The site was covered with soil when it was closed. The 1983 AEHA report indicated the site was covered with shallow gullies that had cut into the top of the refuse. Additional cover was being placed on the site at the time the report was written.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: High

CONTAMINANTS OF CONCERN: Metals, SVOCs, VOCs, PAHs

MEDIA OF CONCERN: Surface Water, Groundwater, Soil, Sediment

Phases	Start	End
RFA	198702	198806
CS	198806	199506
RFI/CMS	199608	200310
DES	200311	200408
CMI(C)	200409	200505
LTM	200506	203509

RC DATE: 200505

The 1988 AEHA Solid Waste Management Unit (SWMU) report recommended investigation of this site. O'Brien and Gere Engineers, Inc. performed a Site Investigation that started in 1990 and was completed in 1993. SVOCs and metals were detected in the groundwater. Cadmium and lead were detected in one groundwater monitoring well above maximum contaminant levels (MCLs). Annual groundwater and surface water sampling of the monitoring wells at this site was started in 1994. The groundwater and surface water samples were analyzed for VOCs, SVOCs, and target analyte list (TAL) metals. None of the groundwater or surface water results exceeded the MCLs for tested analytes. Burns and McDonnell, Inc. completed an Engineering Evaluation and Cost Analysis (EE/CA) for the site in October 2000.

This site became part of the Guaranteed Fixed-Price Remediation (GFPR) Contract with ARCADIS in 2002. ARCADIS completed a CMS (2003) that recommended repairing the landfill cover to comply with the prescriptive remedy for the landfill covers. The recommended IRA was approved by USEPA and KDHE.

Although the work was performed as part of the Completion of Corrective Measures Implementation phase (CMI(C)), it was referenced as an Interim Removal Action (IRA) due to phasing of remedial work performed prior to the completion of the Statement of Basis (SoB). The IRA cover was installed in the fall of 2004.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The GFPR Contract funded all work on this site through closure. The Statement of Basis (i.e., Decision Document) was finalized in June 2005. This site was closed under EPA's *Corrective Action Complete with Controls* land use classification. LTM includes periodic groundwater monitoring and land use controls. As part of the GFPR Contract option award, ARCADIS has begun 5-year warranty period starting on July 11, 2005.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is included in the Fort Leavenworth Land Use Controls Action Plan dated August 1, 2005. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

Fort Leavenworth, August 1, 2005, Final Land Use Controls Action Plan

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-05 – Inactive Sanitary Landfill, Hunt Kennels

ARCADIS, Inc., June 15, 2005, Final Construction Certification and Closure Report & Drawings for FTL-05 & FTL-06

ARCADIS, Inc., August 31, 2004, Final Construction Documents for FTL-05, Inactive Sanitary Landfill, Hunt Kennels - Revision 1, Fort Leavenworth, Kansas

ARCADIS, Inc., August 31, 2004, Revised Final Remedial Closure Construction Drawings FTL-05

ARCADIS, Inc., July 22, 2004, Final Construction Documents for FTL-05, Inactive Sanitary Landfill, Hunt Kennels, Fort Leavenworth, Kansas

ARCADIS, Inc., July 22, 2004, Final Remedial Closure Construction Drawings FTL-05

ARCADIS, Inc., December 12, 2003, Final (Revision 1) Corrective Measures Study Report, Inactive Sanitary Landfill, Hunt Kennels

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 21, 2003, Groundwater Monitoring Report - March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 10, 2003, Final Corrective Measures Study Report FTL-05, Inactive Sanitary Landfill, Hunt Kennels

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., July 25, 2003, Groundwater Monitoring Report - March/April 2003

Environmental Chemical Corporation, June 5, 2003, Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Environmental Chemical Corporation, April 4, 2003, Final Annual Groundwater Monitoring Report 2002 Annual Sampling

ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

Environmental Chemical Corporation, October 28, 2002, Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 1-5

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, June 5, 2002, Final Sampling and Analysis Plan Addendum

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Burns & McDonnell Engineers-Architects-Consultants, November 2001, Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, (Partial) Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, October 2000, Final Engineering Evaluation/Cost Analysis for FTL-5 Inactive Sanitary Landfill

Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples

Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan

Burns & McDonnell Engineers-Architects-Consultants, December 1996, Groundwater and Surface Water Monitoring Report October 1996 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, September 1996, (Final) Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, April 1996, Quality Control Summary Report Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997

Burns & McDonnell Engineers-Architects-Consultants, April 1995, Groundwater Monitoring Report October 1994 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Site Safety and Health Plan Groundwater Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Chemical Data Acquisition Plan Groundwater Sampling Program

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-06
INACTIVE LANDFILL

SITE DESCRIPTION

This approximately 2-acre landfill received incinerator ash. It is located across an intermittent creek north of McPherson Avenue. The east side of the site is heavily wooded which then extends on to Sylvan Trail Road. The west side is forested.

Prior to the remediation, the stream ran west to east through a pipe, across the site. The 30-inch concrete culvert was constructed in the creek channel with ash and other debris filled around it. The depth of the fill over the culvert was six to eight feet.

The 1983 AEHA report states that a large refuse incinerator was active at this site in the 1940s until sometime into the 1950s. The ash from the incinerator was reportedly deposited in the surrounding area. The materials incinerated included household refuse, office wastes, and maintenance shop wastes.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: High

CONTAMINANTS OF CONCERN: Metals, SVOCs, PAHs

MEDIA OF CONCERN: Surface Water, Groundwater, Soil, Sediment

Phases	Start	End
RFA	198702	198806
CS	198806	199506
RFI/CMS	199608	200310
DES	200311	200408
CMI(C)	200409	200505
LTM	200506	203509

RC DATE: 200505

The 1988 AEHA SWMU report recommended that this site be investigated due to the potential of contamination caused by toxic metals in the fill material.

The Site Investigation started in 1990 and was completed in 1993 by O'Brien and Gere Engineers, Inc. One SVOC (benzo(a)pyrene) was detected in soil at a level above the USEPA Region IX Preliminary Remediation Goals (PRGs). One metal (chromium) was detected in groundwater at a level above surface water criteria and/or MCLs. Two metals (lead and zinc) were detected in surface water at levels above Federal Ambient Water Quality Criteria (FAWQC). Annual sampling of the monitoring wells at this site started in 1994. The groundwater and surface water samples were analyzed for VOCs, SVOCs, and TAL metals. None of the groundwater or surface water results exceeded the MCLs for analytes that were tested with the exception of an exceedance of lead and cadmium from monitoring well 6W2 during the 1994 sampling event and in the rinsate blank associated with this sample. The surface water samples collected from 1994 through 2000 had no exceedances for VOCs or SVOCs. Lead and zinc were detected at levels that exceeded the FAWQC during this period, although it was noted that zinc was detected in the rinsate blanks associated with these samples also. E&E completed a study in 2001 that detected lead in the fill material above regulatory standards. Burns and McDonnell, Inc. completed an EE/CA report for the site in 2002.

This site became part of the Guaranteed Fixed-Price Remediation (GFPR) Contract with ARCADIS in 2002. ARCADIS prepared a CMS that recommended grouting the culvert in place, re-routing the stream through a channel constructed east of the landfill along Sylvan Trail Road, and repairing the landfill cover (including placing contaminated stream sediments under the landfill cover) to comply with the prescriptive remedy for landfills. The recommended IRA was approved by USEPA and KDHE. Although the work was performed as part of the CMI(C), it was referenced as an IRA due to phasing of remedial work performed prior to the completion of the Statement of Basis (SoB). The IRA was completed in April 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The GFPR Contract funded all work on this site through closure. The Statement of Basis (i.e., Decision Document) was finalized in June 2005. LTM includes periodic groundwater monitoring and land use controls. As part of the GFPR Contract option award, ARCADIS has begun 5-year warranty period starting on July 11, 2005

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is included in the Fort Leavenworth Land Use Controls Action Plan dated August 1, 2005. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

Fort Leavenworth, August 1, 2005, Final Land Use Controls Action Plan

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-06 – Inactive Incinerator Landfill, Girl Scout Area

ARCADIS, Inc., June 15, 2005, Final Construction Certification and Closure Report & Drawings for FTL-05 & FTL-06

ARCADIS G&M, Inc., August 31, 2004, Revised Final Remedial Closure Construction Drawings FTL-06

ARCADIS G&M, Inc., July 22, 2004, Final Construction Documents for FTL-06, Inactive Incinerator Landfill, Girl Scout Area - Revision 1, Fort Leavenworth, Kansas
ARCADIS G&M, Inc., July 22, 2004, Final Construction Documents for FTL-06, Inactive Incinerator Landfill, Girl Scout Area, Fort Leavenworth, Kansas
ARCADIS G&M, Inc., July 22, 2004, Final Remedial Closure Construction Drawings FTL-06

ARCADIS, Inc., Dec ember12, 2003, Final (Revision 1) Corrective Measures Study Report, Inactive Incinerator Landfill, Girl Scout Area

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 21, 2003, Groundwater Monitoring Report - March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 20, 2003, Final Corrective Measures Study Report, Inactive Incinerator Landfill, Girl Scout Area

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., July 25, 2003, Groundwater Monitoring Report - March/April 2003

Environmental Chemical Corporation, June 5, 2003, Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Environmental Chemical Corporation, April 4, 2003, Final Annual Groundwater Monitoring Report 2002 Annual Sampling

ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

Environmental Chemical Corporation, October 28, 2002, Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 1-5

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, June 5, 2002, Final Sampling and Analysis Plan Addendum

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Burns & McDonnell Engineers-Architects-Consultants, March 2002, Revised Final Engineering Evaluation/Cost Analysis for FTL-6 Inactive Incinerator Landfill

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Burns & McDonnell Engineers-Architects-Consultants, November 2001, Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, June 2001, Final Engineering Evaluation/Cost Analysis for FTL-6 Inactive Incinerator Landfill

Ecology and Environment, Inc., April 2001, FTL-06 Inactive Incinerator Landfill Additional Field Activities

Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, (Partial) Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples

Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan

Burns & McDonnell Engineers-Architects-Consultants, December 1996, Groundwater and Surface Water Monitoring Report October 1996 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, September 1996, (Final) Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, April 1996, Quality Control Summary Report Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997

Burns & McDonnell Engineers-Architects-Consultants, April 1995, Groundwater Monitoring Report October 1994 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Site Safety and Health Plan Groundwater Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Chemical Data Acquisition Plan Groundwater Sampling Program

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units – Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-07
INACTIVE SANITARY LANDFILL

SITE DESCRIPTION

This landfill is located northeast of FTL-06, the Girl Scout Area and is approximately 3 acres in size. The northern boundary of the site is forest. The area to the east and southwest is forest. A gravel road marks the western boundary of the site with forest beyond it.

Currently, the site is covered with waste lime sludge from the Fort's Lime Sludge Lagoons. This area was used as a sanitary landfill between 1967 and 1970. The 1988 AEHA Report lists petroleum, oils, and lubricants (POL), wood waste, ash from incinerated material and other types of solid waste as being disposed of in FTL-07. In 1990, the site was used as a disposal site for lime sludge from FTL-23. The 1989 AEHA Report indicated this site had a low hazard potential and did not require investigation. However, this assessment was made before the site was covered with lime sludge. Regulatory agencies have requested investigation of the site to characterize the nature and extent of contamination.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals, VOCs, SVOCs

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	198702	199806
RFI/CMS	200110	200604
DES	200203	200608
CMI(C)	200203	200709
LTM	200710	203709

RC DATE: 200709

This site became part of the GFPR Contract with ARCADIS in 2002. ARCADIS completed the initial site characterization and prepared a Draft RFI report in 2003. Site characterization activities included soil boring sampling, surface soil sampling, monitoring well installation, groundwater sampling, lime sludge sampling, waste delineation via geophysical surveys and cover evaluation. Based on the review of the Draft RFI Report additional site characterization was conducted in winter 2004.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
The GFPR Contract funded all work on this site through closure. The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006.

ARCADIS is currently working on evaluating the results of the field investigations and has gathered additional information that is needed to complete the RFI and will then prepare a CMS. LTM will include periodic groundwater monitoring and land use controls.

SITE USE LIMITATIONS/LAND USE CONTROLS
Future use of this site is expected to be limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION
ARCADIS, Inc., December 15, 2005, Final RFI Report FTL-07, Inactive Sanitary Landfill, Behind Girl Scout Area, Fort Leavenworth, Kansas

ARCADIS, Inc., June 11, 2004, Final RFI Work Plan Addendum FTL-07, Inactive Sanitary Landfill, Behind Girl Scout Area, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 21, 2003, Groundwater Monitoring Report - March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., July 25, 2003, Groundwater Monitoring Report - March/April 2003

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

FTL-08
INACTIVE SANITARY LANDFILL

SITE DESCRIPTION

The Inactive Sanitary Landfill encompasses approximately 5 acres and is located in the northwest corner of the flood plain area of the Fort. The site is bounded on the north by flood plain forest and then by the Missouri River. The area to the east is farmland that has been leased to a private individual. The area to the south starts with the levee protecting the airfield and a wetland. The west side is bounded by the Union Pacific Railroad tracks.

The 1983 AEHA report indicates this site was used from the 1950s to 1967 as a wood recycling area where tree trimmings and other wooden debris were sent. Wood that was not recycled was burned and/or buried on the site.

The 1988 AEHA report indicates this landfill received construction and demolition wastes, residential wastes, and bulk wastes. Bulk wastes consisted of appliances, mattresses and springs, and wood waste. The 1988 report lists this site as a sanitary landfill. Several employees in 1998 reported that this site was used as a burn area to reduce the debris coming from the numerous wooden barracks that Fort Leavenworth demolished in 1975 and 1976.

STATUS

REGULATORY DRIVER: RCRA Subtitle C Hazardous Wastes

RRSE: Low

CONTAMINANTS OF CONCERN: VOCs, SVOCs, PCBs, Metals, Pesticides

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
RFA	198702	199806
CS	199807	199906
RFI/CMS	199907	200710
DES	200203	200805
CMI(C)	200203	200809
LTM	200810	203809

RC DATE: 200809

The July 1997 Fort Leavenworth ECAS inspection recommended that this site be investigated. Head Quarters TRADOC provided FY98 funds for investigation. The Preliminary Assessment was performed in the summer of 1998 and found sufficient contamination to allow the site to be placed into the Army Restoration Program. The primary concerns are lead in the soil and benzene in the groundwater above regulatory limits. Several other SVOCs, PCBs, and pesticides also were detected at low levels in soil.

The year 2001 found E&E performing a RCRA Facilities Investigation on the site. As part of the RCRA Facilities Investigation at FTL-08, E&E also investigated a 3.5-acre area to the east of the site due to anomalies found during a previous geophysical investigation that indicated possible contamination. The final report was issued in October 2001. E&E advanced a total of eight soil borings at the site and installed six observation wells.

They found contamination levels consistent with the Preliminary Assessment (PA). Numerous VOCs, SVOCs, PCBs and pesticides were detected in surface and subsurface soil within the landfill, of which only benzo(a)pyrene exceeded human health screening criteria. Arsenic, iron, and lead were detected in soil at levels exceeding human health screening criteria. Two VOCs were detected in groundwater, neither of which exceeded human health screening criteria. No SVOCs, PCBs, or pesticides were detected in groundwater. Arsenic, iron, and manganese exceeded human health screening criteria in groundwater. No PCBs were detected by the testing. ARCADIS started groundwater testing in May 2005 to support finalization of the RFI/CMS.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

This site is part of the Fiscal Year 2006 option to the ARCADIS Contract. This option has been executed and ARCADIS personnel have started an evaluation of the site. They are expected to use the results of the RFI to complete a Risk Assessment. The risk assessment results will be incorporated into a Corrective Measures Study for the site that will be used for remedy selection. Once the remedy has been selected, they will proceed with design and implementation.

SITE USE LIMITATIONS/LAND USE CONTROLS

Future use of this site is expected to be limited to activities that do not disturb the materials contained in the landfill or the cover materials.

REMEDIATION DOCUMENTATION

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Ecology and Environment, Inc., March 13, 2003, (Final) Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan for IRP and OMA Program Support

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volumes 1 through 5

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Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Ecology and Environment, Inc., December 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-08

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Ecology and Environment, Inc., October 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-08

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-10
OLD FIRE TRAINING AREA BURN PIT

SITE DESCRIPTION

FTL-10 is located on the Missouri River floodplain at the north end of the levee area. The site is located towards the northeast corner of the area. The surface area is approximately 0.80 acres (60 by 60 meters) in size and is primarily an open field with a few trees. A levee road borders the north side of the site. The east, south and west sides are bounded by leased agricultural areas.

The site was used for firefighting training. These activities probably started in the 1950s and continued until 1980. The flammable materials utilized for firefighting training are reported to have been POL wastes, solvents, paint thinners, paint sludges, and other flammable materials. These materials were placed directly on the ground and ignited.

In 1981, Fort Leavenworth requested AEHA analyze four samples of soil from the area for PCBs. The request stated that the area was contaminated with organic solvents, paint sludges, and thinners that had been placed in the area and ignited semi-annually for use in firefighting training.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	198702	198806
CS	198807	199506
IRA	200510	200605
RFI/CMS	199608	200611
DES	200203	200701
CMI(C)	200203	200909
CMI(O)	200910	203909

RIP DATE : 200910
RC DATE: 203909

In June 1981, approximately 40 drums and ten 5-gallon cans of various ignitable solvents were removed from the site and taken to a shed located at FTL-09. The 1983 AEHA inspection found 30 drums at the site. These drums were believed to contain POL and/or other solvents. The AEHA found oily residue materials adjacent to the drum storage area. The drums were properly disposed of in accordance with regulatory requirements. The assessment found no records about the type or quantities of wastes that had been disposed at this site.

EPA directed Fort Leavenworth to perform a time-critical removal action after their site visit in the early 1980s shortly after the site ceased to be used as a fire training area. Discussions with Fort Leavenworth personnel indicated that Fort Leavenworth personnel performed surface remediation of contaminated soil in the early 1980s and the material was buried in the Fort Leavenworth Sanitary Landfill, FTL-09.

A Site Investigation (SI) began in October 1988 when Hunter Environmental Services, Inc. started an examination of the site. Contractual problems caused the work to stop and never be restarted. The 1989 AEHA report recommended this study to continue and appropriate corrective measures determined.

In 1997, Burns & McDonnell, Inc. conducted a SI that included the installation of four additional monitoring wells and subsurface soil and groundwater sampling. Traces of free-phase hydrocarbons at the soil/groundwater interface and stained soil were observed at several locations during the SI. VOC contamination was detected throughout much of FTL-10; however, there was only location where VOC concentrations in soil exceeded the screening criteria. SVOCs in soil were also detected in only one location, though none of the concentrations reported exceeded screening criteria. The only metal in soil that exceeded screening criteria was arsenic; however, the concentrations are believed to be naturally occurring. Ten VOCs were detected at levels that exceeded criteria in various samples at FTL-10. SVOCs were detected in groundwater at, two locations, which exceeded screening criteria. Monitoring Well 10W5 also contained extremely elevated metals in groundwater.

The investigation of the site continued in the fall of 1998 when the Corps of Engineers Site Characterization and Penetrometer System (SCAPS) truck was brought to the site. They found groundwater contaminated with VOCs at depths ranging from 40-65 ft bgs. Fort Leavenworth obtains drinking water from wells screened at 120 ft. bgs located approximately 3,500 feet to the south of FTL-10.

Ecology and Environment, Inc. completed a RCRA Facilities Investigation at the site in November 2001. Twelve VOCs exceeded their residential risk-based criteria (RSK) established by KDHE and/or EPA Region IX PRG in monitoring well10W5. They drilled wells to help model the groundwater flow in the area in addition to a line of sentinel wells between the site and Fort Leavenworth Drinking Water Wells. The U.S. Geological Survey has produced a groundwater flow model for this area of the installation. The site has been monitored annually under the installation-wide groundwater monitoring program.

This site became part of the Guaranteed Fixed-Price Remediation (GFPR) Contract with ARCADIS in 2002. Additional monitoring and injection wells were installed in June 2003. Enhanced bioremediation pilot test began in August 2003 and was successfully completed with a draft CMS submitted in December 2004. Additional source delineation was conducted in March 2005 and a final CMS was submitted in November 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
The GFPR Contract funded all work on this site through remedy in place. The results of the investigations, pilot study, and risk assessment are being used in development of the CMS for remedy selection. Once the remedy has been selected they will proceed with design and implementation. The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006. Additional GFPR Contract options are available to address CMI(O). ARCADIS is also preparing a source soil removal plan for an IRA.

SITE USE LIMITATIONS/LAND USE CONTROLS
Access to the site will be restricted until the site is closed. No alterations to the site will be planned until clean closure is obtained.

REMEDIATION DOCUMENTATION
ARCADIS, Inc., November 11, 2005, Final Corrective Measures Study Report FTL-10, Burn Pit, Old Firefighting Training Area, Fort Leavenworth, Kansas

ARCADIS, Inc., March 3, 2005, Supplemental Investigation Work Plan for FTL-10, Fort Leavenworth, KS

U.S. Geological Survey, February 11, 2005, Simulation of Ground-Water Flow, Contributing Recharge Area, and Ground-Water Travel Time in the Missouri River Alluvial Aquifer near Ft. Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA
ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)
ARCADIS, Inc., October 21, 2003, Groundwater Monitoring Report - March/April 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)
ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo
ARCADIS, Inc., July 25, 2003, Groundwater Monitoring Report - March/April 2003
Environmental Chemical Corporation, June 5, 2003, Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring
ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan
ARCADIS, Inc., May 23, 2003, Final Pilot Test Work Plans FTL-10, Old Firefighting Training Area and FTL-15, Stoddard Solvent Tanks
Environmental Chemical Corporation, April 4, 2003, Final Annual Groundwater Monitoring Report 2002 Annual Sampling

Ecology and Environment, Inc., March 13, 2003, (Final) Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan for IRP and OMA Program Support
ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)
ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans
ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan
ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans
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ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans
Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5
Environmental Chemical Corporation, June 5, 2002, Final Sampling and Analysis Plan Addendum
Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring
Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring
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Ecology and Environment, Inc., November 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-10
Ecology and Environment, Inc., November 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-10/11
Burns & McDonnell Engineers-Architects-Consultants, November 2001, Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event
Ecology and Environment, Inc., January 2001, FTL-10 Data Summary
Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event
Ecology and Environment, Inc., June 2000, Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan Installation Restoration Program Support
Ecology and Environment, Inc., June 2000, Final Quality Control Plan Installation Restoration Program Support
Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program
Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program
Burns & McDonnell Engineers-Architects-Consultants, February 1998, Final Site Investigation Report for FTL-10 Closed Firefighting Practice Area
Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program
Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program
Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples
Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan
Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites
Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan
Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan
Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan
Burns & McDonnell Engineers-Architects-Consultants, December 1996, Groundwater and Surface Water Monitoring Report October 1996 Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, September 1996, (Final) Groundwater and Surface Water Monitoring Report December 1995 Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, April 1996, Quality Control Summary Report Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997
Burns & McDonnell Engineers-Architects-Consultants, April 1995, GW Monitoring Report October 1994 Sampling Event
Burns & McDonnell Engineers-Architects-Consultants, October 1994, Site Safety and Health Plan Groundwater Sampling Program
Burns & McDonnell Engineers-Architects-Consultants, October 1994, Chemical Data Acquisition Plan Groundwater Sampling Program
O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7 Hunter/ESE, Inc., May 1989, Site Sampling Plan for Old Burn Pit Area Site FTL-10
Hunter/ESE, Inc., May 1989, Site Health and Safety Plan Old Burn Pit Area, Site FTL-10 Contract NO. DACW41-87-D-0151
United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units
USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86
Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-11
CLOSED FIRE TRAINING AREA

SITE DESCRIPTION

FTL-11 is located inside the airfield levee. The major feature of the site is a concrete pad located on the east side of the levee area towards the south end. The concrete pad was the end of a cinder runway that ran from the southeast to the northwest in this area. The site is surrounded by pasture on all four sides. Access to the site is via a dirt road that comes off the levee on the east side of the airfield and runs west to the site. The site is approximately 1.2 acres in size.

This site was opened in about 1980 and was closed about 1989. Approximately six firefighting training sessions were held each year. The 1983 AEHA study indicated about 1,200 gallons of off-specification Jet Propellant Number-4 (JP-4) was used annually. The fuel was distributed to an airplane simulator using steel piping. In 1983, an 8-inch concrete berm was constructed around the center area of the site to contain runoff. The simulated airplane, associated piping, and other metal objects at the site were removed as scrap metal.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: High

CONTAMINANTS OF CONCERN: Metals, VOCs, SVOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
RFA	198702	198806
CS	198807	199506
RFI	199608	200709

RC DATE: 200709

The 1988 AEHA report recommended that this site be investigated. O'Brien and Gere Engineers, Inc. performed a site investigation between 1990 and 1993. Metals were found to be above Kansas Action Levels. Burns and McDonnell, Inc. conducted a limited site investigation in conjunction with an on-going Engineering Evaluation and Cost Analysis in 1997. They found benzene contamination in the soil under the fuel storage area. Their final report was issued in February 2002. The Final Engineering Evaluation and Cost Analysis performed by Burns & McDonnell Engineers found benzene in the groundwater, but did not determine its extent.

Ecology & Environment, Inc. (E&E) installed perimeter fencing at the site in December 2001 to limit access from immediately adjacent land. ARCADIS performed field sampling in October 2004 and provided a final RFI in November 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
This site is in the Fiscal Year 2004 option of the ARCADIS Contract, which was funded in Jan 2004. ARCADIS used the results of the previously completed studies and the new information to develop a risk assessment as part of an RFI. The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006.

SITE USE LIMITATIONS/LAND USE CONTROLS
This site is expected to be closed as a No Further Action (NFA) site, with no restrictions on future use, although the site will be covered under the 5-year GFPR contract warranty period.

REMEDIATION DOCUMENTATION
ARCADIS, Inc., November 14, 2005, Final RFI Report, Closed Fire Training Area, Fort Leavenworth, KS

U.S. Geological Survey, February 11, 2005, Simulation of Ground-Water Flow, Contributing Recharge Area, and Ground-Water Travel Time in the Missouri River Alluvial Aquifer near Ft. Leavenworth, Kansas

ARCADIS, Inc., September 7, 2004, Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., Oct 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

Environmental Chemical Corporation, June 5, 2003, Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Environmental Chemical Corporation, April 4, 2003, Final Annual Groundwater Monitoring Report 2002 Annual Sampling

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

Environmental Chemical Corporation, October 28, 2002, Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 1-5

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, June 5, 2002, Final Sampling and Analysis Plan Addendum

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Burns & McDonnell Engineers-Architects-Consultants, February 2002, Final Report Engineering Evaluation/Cost Analysis for FTL-11 Closed Firefighting Practice Area

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Ecology and Environment, Inc., November 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-10/11

Burns & McDonnell Engineers-Architects-Consultants, November 2001, Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples

Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan

Burns & McDonnell Engineers-Architects-Consultants, December 1996, Groundwater and Surface Water Monitoring Report October 1996 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, September 1996, (Final) Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, April 1996, Quality Control Summary Report Groundwater and Surface Water Monitoring Report December 1995 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997

Burns & McDonnell Engineers-Architects-Consultants, April 1995, Groundwater Monitoring Report October 1994 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Site Safety and Health Plan Groundwater Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Chemical Data Acquisition Plan Groundwater Sampling Program

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-15
USED SOLVENT TANK UST NEAR BLDG 487-1

SITE DESCRIPTION

The source for the contamination at this site was underground tanks containing tetrachloroethylene (PCE) and other solvents located at the Dry Cleaning Shop inside the old United States Disciplinary Barracks located on McPherson Avenue. The location of the shop was along the west side of the prison about 100 meters north of the south wall. The tanks were located in the grass-covered area between the Dry Cleaning Shop, Building 487, and Maintenance Shop, Building 468.

The site is normally referred to as FTL-15 for convenience, since each of the six tanks at this location was assigned a tracking number. The tank location was on the eastside of the Dry Cleaning Shop in a grass-covered area about 50 feet wide and 250 feet long. There is an eight foot wide and eight foot deep, below ground steam tunnel running north to south along the entire distance of the site, which makes work at this site difficult.

The FTL numbers and KDHE tank registration numbers for each tank were: FTL-15=23462U036, FTL-16=23462U037, FTL-17=23462U038, FTL-18=23462U039, FTL-50=23462U043, FTL-51=23462U044.

STATUS

REGULATORY DRIVER: RCRA I: UST

RRSE: Low

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	198702	198806
INV	198807	199410
CAP	199411	200510
DES	200511	200601
IRA	200303	200503
IMP(C)	200602	200603
IMP(O)	200203	201209

RIP DATE: 200603
RC DATE: 201209

Prior to 1988, KDHE issued an order directing that four known tanks at the site be removed (FTL-15, 16, 17 & 18). Records show that a removal contract for the four tanks was issued in 1988 and documentation of the removal was filed with KDHE. No other information about this contract has been located. It is known that during that removal action, two more tanks (FTL-50 & 51) were found. They were removed under a second contract in September 1993.

Based on the results of the sampling conducted at the time of the removal of the first four tanks, the 1989 AEHA report documented that additional testing was required. The test results were forwarded to regulatory agencies for their review and determination of the necessary corrective actions. After the last two tanks were removed, KDHE issued an administrative order, based on RCRA UST Regulations, directing the Fort to test and determine the extent of the solvent contamination. Burns and McDonnell, Inc. performed the first round of testing in April 1996.

They found significant contamination in three borings and in each of the three wells that were installed. The sampling indicated contamination had reached the water table and was migrating along it. Subsequent testing in 1997 and 1998 by Burns and McDonnell, Inc. provided a better characterization of the site.

Groundwater contamination from the site is moving primarily west and north.
The 1997 Final Site Assessment and 1999 Phase 2 Site Investigation performed for this site by Burns and Mc Donnell, Inc. included analytical data from Intertek Testing Services (ITS) which was later determined by EPA to be unreliable due to fraudulent manipulation of organic data on projects not related to Fort Leavenworth.

This site became part of the GFPR Contract with ARCADIS in 2002. Additional monitoring and injection wells were installed in June 2003. Enhanced bioremediation pilot test began in August 2003 and was successfully completed with a final CMS submitted in July 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The GFPR Contract funded all work on this site through remedy in place. The results of the investigations, pilot study, and risk assessment were used in development of the final CAP for remedy selection. ARCADIS is proceeding with design and implementation of natural attenuation. Additional GFPR Contract options are available to address IMP(O). ARCADIS is working on a plan for a venting system at the former dry cleaning building. The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006.

SITE USE LIMITATIONS/LAND USE CONTROLS

The use of this site will be restricted until the completion of the natural attenuation. Ventilation of Building 487 is required until it is shown that there is no unacceptable risk to occupants.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., July 6, 2005, Final Corrective Measures Study Report FTL-15, Stoddard Solvent Tanks Area, Fort Leavenworth, Kansas
KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 28, 2003, Groundwater Monitoring Report - June/July 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

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ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., May 23, 2003, Final Pilot Test Work Plans FTL-10, Old Firefighting Training Area and FTL-15, Stoddard Solvent Tanks

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ARCADIS, Inc., February 10, 2003, Groundwater Monitoring Report - September/October 2003 Analytical Data (Attachment 1) and Final Data Quality Assessment (Attachment 2)

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Burns & McDonnell Engineers-Architects-Consultants, June 2001, ITS QA Data Comparison Report for the Site Investigation Report at the Disciplinary Barracks

Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, August 1999, Final Technical Memorandum Chemical Data Acquisition Plan Addendum for the 1999 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report Mar 1998 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Final Work Plan Addendum for the Phase 2 Site Investigation at the United States Disciplinary Barracks

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Final Quality Control Plan for Phase 2 Site Investigation Report for the United States Disciplinary Barracks

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Final Site Assessment Report for the United States Disciplinary Barracks

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Final Quality Control Summary Report for Site Assessment at the United States Disciplinary Barracks Volume I

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Final Quality Control Summary Report for Site Assessment at the United States Disciplinary Barracks Volume II

Burns & McDonnell Engineers-Architects-Consultants, April 1996, Site Assessment Work Plan for the United States Disciplinary Barracks

Burns & McDonnell Engineers-Architects-Consultants, March 1996, Site Assessment Work Plan for the United States Disciplinary Barracks

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-20
SEPTIC TANK NEAR BLDG 398

SITE DESCRIPTION

The United States Disciplinary Barracks (USDB) Greenhouse was located on Sherman Drive West Warehouse Road. The greenhouse complex (including FTL-60) consists of the greenhouse built in 1918 made with a steel frame and fiberglass panels and a boiler plant building built in 1919 constructed of brick and concrete. The greenhouse was demolished in 2001. Only the boiler plant building remains.

FTL-20 was the sewage system for the USDB Greenhouse (Building 398) and the Greenhouse Boiler Building (Building 399). The system was installed in 1919 when the buildings were constructed along the south side of the boiler building. It consisted of a tank to remove the solids and a pipe that discharged the liquid and remaining solids into the creek south of the building.

STATUS

REGULTORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: Medium

CONTAMINANTS OF CONCERN: Pesticides, Herbicides, VOCs, SVOCs

MEDIA OF CONCERN: Surface Water, Groundwater, Soil, Sediment

Phases	Start	End
RFA	198702	198806
CS	200001	200207
RFI	200208	200807

RC DATE: 200807

The sewage piping and tank were abandoned in place when the greenhouse was connected to the Fort's sanitary sewer system, probably in the late 1970s. The 1997 ECAS Audit recommended this site be investigated for pesticides and herbicides.

ARCADIS has conducted field work for the site characterization and the draft RFI is scheduled to be submitted in December 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

This site was part of the Fiscal Year 2006 option to the ARCADIS Contract. This site was funded in March 2004 due to early availability of funds. ARCADIS is currently preparing the RFI report for this site. The investigation indicated that there was not a septic tank present at the site, and that no impacts were present in the soils and groundwater (with the exception of some low level hits in the pesticide/herbicide scan). The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is expected to be closed as a No Further Action (NFA) site, with no restrictions on future use, although the site will be covered under the 5-year GFPR contract warranty period.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., July 30, 2004, Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-24
PESTICIDE AREA NEAR BLDG 227

SITE DESCRIPTION

Building 227, the current entomology shop, is located on the northwest corner of the intersection of West Warehouse Road and Organ Avenue.

The building is wood framed with brick exterior, roughly 40 x 100 feet and contains an office, pesticide mixing room, laundry room, and two storage rooms. It was constructed in 1903 as a warehouse. Asphalt paving surrounds building. East of the building is paved parking and a street. On the south is Organ Avenue. On the west is the mixing pad and paved parking for the entomology equipment. On the north is a paved connector to a parking area.

STATUS

REGUALTORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: High

CONTAMINANTS OF CONCERN: Pesticides, Herbicides

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
RFA	198702	198806
CS	199003	199302
RFI	200003	200609

RC DATE: 200609

The Entomology Shop has been located in Building 227 since 1976. The site was chosen since it was a better alternative than other storage sites being used at the time. In 1989, the building was upgraded to conform to current pesticide handling practices. Previous mixing practices have resulted in residual levels of herbicides and pesticides in the soil around this building. Soil stains were observed around the building in graveled areas. A mixing pad was constructed to contain spills and direct all water/contaminants on the pad into storage tanks. Asphalt has since been placed over the gravel to help limit future soil contamination and leaching of chemicals to groundwater.

The 1989 AEHA report recommended this area to be investigated. The subsequent O'Brien and Gere Contamination Evaluation (1994) found contaminants exceeding Kansas Action Levels (KALs), the screening criteria at the time. Note that the KALs have been replaced by Risk-Based Standards of Kansas (RSKs).

Ecology and Environment, Inc. performed a RCRA Facilities Investigation in the year 2000 and submitted the final report in October 2001. They found chemical contamination; however, when they evaluated the chemical levels of both this investigation and the original investigation against the new RSK, they found all concentrations to be below the screening levels.

Both KDHE and EPA approved the Ecology & Environment, Inc. RCRA Facilities Investigation (RFI) Report in their comment letter dated October 31, 2001. ARCADIS provided a groundwater monitoring work plan to comply with regulatory requirements for extended groundwater sampling.

Thus, an RFI work plan was completed by ARCADIS in fall 2004 and sampling is complete. ARCADIS is currently amending the RFI report for this site. No additional work is expected at the site due to change in KDHE action levels from KALs to RSKs, which allows higher concentrations of contaminants. Because of these changes, no further action is anticipated.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

This site is part of the Fiscal Year 2004 option to the ARCADIS Contract, which was funded in Jan 2004. ARCADIS will use the results of the RFI to recommend no further action. The Statement of Basis (i.e., Decision Document) is expected to be available for public review and comment in summer 2006.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is expected to be closed as a NFA site, with no restrictions on future use, although the site will be covered under the 5-year GFPR contract warranty period.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., June 14, 2004, Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Ecology and Environment, Inc., March 13, 2003, (Final) Field Sampling Plan, Health and Safety Plan, and Quality Assurance Project Plan for IRP and OMA Program Support

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Ecology and Environment, Inc., November 2001, Final Quality Control Summary Report for Fort Leavenworth Investigations at Solid Waste Management Unit FTL-24

Ecology and Environment, Inc., October 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-24

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-57
SKEET RANGE (INACTIVE)

SITE DESCRIPTION

This site is located inside the levee north of the aircraft-parking ramp. The site is bounded by Chief Joseph Loop road on the west, open field and the levee on the north, and runway on the east. This site is approximately 800 x 560 feet. The site is now a grass field.

This site was not reported in the 1988 AEHA Study. It was identified in 1992 as being eligible for the IRP and was added to the Action Plan. The range opened in 1942 and closed in August 1988 when the Skeet Club moved to their new facility. OMA funds were programmed and received for the 1993 site investigation work. Law Engineering and Environmental Services submitted the Final Contamination Evaluation Report in 1996. The investigation found lead and PAHs in the soils at concentrations significantly exceeding the KALs and risk-based screening levels. IRP funds were used for the Engineering Evaluation and Cost Analysis (EE/CA), which were performed by Burns & McDonnell, Inc. The final EE/CA report was issued in March 2002.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals, SVOCs, PAHs

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	199007	199007
CS	199307	199608
RFI/CMS	199609	200707
DES	200203	200709
CMI(C)	200203	201109
LTM	201110	204109

RC DATE: 201109

Both KDHE and EPA conditionally approved the Burns & McDonnell, Inc. EE/CA Report in their comment letter dated April 23, 2002. The EE/CA identified 6 alternative remedial technologies: soil cover; compacted cap; excavation and off-site disposal; waste minimization and off-site disposal; waste minimization and on-site disposal; and no action. The chosen remedy in the EE/CA is waste minimization and off-site disposal.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
This site is part of the Fiscal Year 2006 option to the ARCADIS Contract. This option has been executed and ARCADIS personnel have started an evaluation of the site. They are expected to use the results of the Contamination Evaluation and EE/CA to complete a risk assessment. The risk assessment results will be incorporated into the Corrective Measures Study for the site that will be used for remedy selection. Once the remedy has been selected they will proceed with design and implementation.

SITE USE LIMITATIONS/LAND USE CONTROLS
Future use of this site is dependent on the selected remedy.

REMEDIATION DOCUMENTATION
KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

Environmental Chemical Corporation, June 5, 2003, Final Sampling and Analysis Plan and Site Safety and Health Plan Long-Term Groundwater Monitoring

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

Environmental Chemical Corporation, April 4, 2003, Final Annual Groundwater Monitoring Report 2002 Annual Sampling

Ecology and Environment, Inc., Apr 1, 2003, Firing Ranges and Associated Facilities

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

Environmental Chemical Corporation, October 28, 2002, Final Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event Volume 1-5

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Environmental Chemical Corporation, October 2002, Fort Leavenworth Groundwater Monitoring Final Quality Control Summary Report Second Quarter 2002 Annual Sampling Event, Volumes 1 through 5

Environmental Chemical Corporation, June 5, 2002, Final Sampling and Analysis Plan Addendum

Environmental Chemical Corporation, June 2002, Final Sampling and Analysis Plan Addendum Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Environmental Chemical Corporation, April 2002, Final Sampling and Analysis Plan Part I - Field Sampling Plan Part II - Quality Assurance Project Plan Site Safety and Health Plan, Long-Term Groundwater Monitoring

Burns & McDonnell Engineers-Architects-Consultants, March 2002, Final Engineering Evaluation/Cost Analysis for FTL-57 Former Skeet Range

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Burns & McDonnell Engineers-Architects-Consultants, November 2001, Final Groundwater and Surface Water Monitoring Report November/December 2000 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 2001, Final Quality Control Summary Report 2000 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Technical Memorandum Chemical Data Acquisition Plan Addendum No. 3 for the 2000 Groundwater and Surface Water Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Groundwater and Surface Water Monitoring Report September 1999 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, November 2000, Final Quality Control Summary Report 1999 Groundwater and Surface Water Monitoring Event

Burns & McDonnell Engineers-Architects-Consultants, January 1999, Final Groundwater and Surface Water Monitoring Report and Quality Control Summary Report March 1998 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, February 1998, Chemical Data Acquisition Plan Addendum for the 1997, 1998 and 1999 Groundwater and Surface Water Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Quality Control Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, November 1997, Site Health and Safety Plan Annual Monitoring Program

Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples

Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan

Burns & McDonnell Engineers-Architects-Consultants, December 1996, Groundwater and Surface Water Monitoring Report October 1996 Sampling Event

Law Engineering and Environmental Services, September 1996, Final Contamination Evaluation Report for Old Skeet Range

Burns & McDonnell Engineers-Architects-Consultants, December 1995, Chemical Data Acquisition Plan for the Groundwater and Surface Water Sampling Program 1995, 1996, and 1997

Law Engineering and Environmental Services, October 1994, Final Work Plans Volumes I & II for Contamination Evaluation for Old Skeet Range

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units- Final Report Volumes 1 through 7

FTL-60
USDB GREENHOUSE

SITE DESCRIPTION

The United States Disciplinary Barracks (USDB) Greenhouse was located on Sherman Drive west of the hangar at Sherman Army Airfield. The greenhouse area complex (including FTL-20) consisted of the greenhouse built in 1918 made with a steel frame and fiberglass panels and a boiler plant building (Bldg. 399) built in 1919 constructed of brick and concrete. The greenhouse was demolished in 2001 due to glass support system structural problems. This site consists of the area where drums were discovered near the USDB Greenhouse Boiler Building.

During an installation tour in 1988, EPA representatives discovered three overturned drums south of the USDB Greenhouse Boiler Building. Installation personnel investigated the site and found that the drums had contained methylene chloride that had been used to strip paint from furniture. The drums and about 23 cubic feet of contaminated soil were removed from the site immediately after discovery. The empty drums and contaminated soil were stored awaiting testing results and were shipped off the Fort as hazardous waste in 1992. The 1989 Facilities Assessment resulted in EPA directing further investigation of this site. O'Brien and Gere Engineers, Inc. studied the site from 1990 to 1993. They did not find any traces of the solvents, but did find pesticides above KALs in effect at that time. That data has been re-screened using RSK values, which are the current regulatory standards. No exceedances of RSK values were discovered.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, Pesticides

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
RFA	198702	198806
CS	198906	199406
RFI	200201	200807

RC DATE: 200807

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

This site is part of the Fiscal Year 2006 option to the ARCADIS contract. This site was funded in March 2004 due to early availability of funds. ARCADIS has prepared a draft Closure Report. Finalization is contingent upon the results from the FTL-20 investigation. ARCADIS is currently preparing the RFI report for the combined FTL-20/FTL-60 site. This investigation indicated that there was not a septic tank present at the site, and that no impacts were present in the soils and groundwater from the solvent spill (with the exception of some low level hits in the pesticide/herbicide scan). The Statement of Basis (i.e., Decision Document) for FTL-60 is expected to be available for public review and comment in summer 2006.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site is expected to be closed as a NFA site, with no restrictions on future use, although the site will be covered under the 5-year GFPR contract warranty period.

REMEDIATION DOCUMENTATION

Report FTL-60, Stripped Paint Area, Fort Leavenworth, Kansas

KDHE, Oct 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific SWMU - Final Report Volumes 1 through 7

FTL-69
DIESEL FUEL SPILL AREA

SITE DESCRIPTION

FTL-69 is to the south and under former Bldg 139. Building 139 was located on elevated ground on the northeast corner of the levee. Chief Joseph's Loop Road is used to access the site. The entire site is approximately 4 acres in size. The area of concern was approximately 60 meters square.

Building 139 was constructed in the late 1950s to house diesel generators that supplied backup power to Building 138, a radio transmitter facility. A 30,000-gallon underground diesel storage tank was installed when the facility was built. The facility was used until the early 1970s when the tank was abandoned in place. The generators were removed and the building converted to a computer development center in 1982. The tank was removed in July 1991 as part of a UST removal contract. Clean closure of the tank site was obtained. The facility served as an Army reserve center until 1998.

STATUS

REGULATORY DRIVER: RCRA I: USTs Corrective Measures Subpart C
RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, TPH, PAHs

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	199811	199812
CS	199901	200110
RFI	200111	200709

RC DATE: 200709

The building was demolished in February 1999. During the demolition, the contractor found soil that demonstrated a diesel fuel odor. Subsequent testing confirmed that selected soils had a detectable TPH content.

Ecology and Environment, Inc. (E&E) performed and reported a Final Facilities Investigation at the site in October 2001 as part of the FTL-10 investigation. They found PAHs in deep soils beneath the area of the former Building 139 floor slab. No groundwater samples have been collected in the immediate area of either the floor slab or the former UST location to the south of it.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
This site is part of the Fiscal Year 2006 option to the ARCADIS Contract. This option has been executed and ARCADIS personnel have started an evaluation of the site. The results of the RFI will be used to determine the need for further action.

SITE USE LIMITATIONS/LAND USE CONTROLS
Limitations on the future use of this site are dependent upon the final remedy.

REMEDIATION DOCUMENTATION

U.S. Geological Survey, February 11, 2005, Simulation of Ground-Water Flow, Contributing Recharge Area, and Ground-Water Travel Time in the Missouri River Alluvial Aquifer near Ft. Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Ecology and Environment, Inc., October 2001, Final Initial RCRA Facility Investigation for Solid Waste Management Unit FTL-69

FTL-70
FUEL OIL LEAK SITE AT USDB

SITE DESCRIPTION

This site of approximately 1.4 acres is located north of the US Disciplinary Barracks Boiler Plant. The boiler plant is located on the northwest corner of the facility. The north end of this site, which is north of the confinement wall, was the outdoor recreation area for the prisoners. The area immediately around the boiler plant building is a paved driveway.

The area of this site north of the wall was used for fuel oil storage until the late 1980s. Numerous tanks have been sited at this location including a wooden staved oil tank (removed in the 1930s), six 20,000-gallon aboveground tanks (removed by 1970), and a 168,000-gallon aboveground oil tank (stopped operation in the late 1980s and was removed in 1999). All tanks stored No. 6 fuel oil that was the backup fuel for the boiler plant. During removal of the 168,000-gallon tank, contamination was found under the slab supporting the tank.

STATUS

REGULATORY DRIVER: RCRA

RRSE: Low

CONTAMINANTS OF CONCERN:
SVOCs, PAHs, TPH

MEDIA OF CONCERN:
Soil

Phases	Start	End
RFA	199910	200002
RFI/CMS	200110	200610
DES	200611	200709
CMI(C)	200710	201109

RC DATE: 201109

The piping between the tanks and boiler plant was replaced in 1979. Due to the number of tanks on the site and the problems with the broken piping, there is the potential for fuel oil contamination at this site.

There were also three 20,000-gallon USTs at this site. They were installed in 1979 to add additional storage capacity. These tanks also stored No. 6 fuel oil that was the backup fuel for the boiler plant. The USTs ceased operations in the late 1980s and were removed about 1995. These three tanks were closed clean.

ARCADIS submitted a final work plan in August 2004 and conducted investigations in January 2005 for site characterization to support the development of a RFI for the site to determine the extent of fuel contamination.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
This site was part of the Fiscal Year 2006 option to the ARCADIS Contract. This site was funded in March 2004 due to early availability of funds. A remedial field investigation was performed and completed by ARCADIS in January 2005.

ARCADIS prepared a draft RFI Report for this site dated September 19, 2005. Based upon results, it was determined that ARCADIS will install 2 additional temporary groundwater monitoring wells located near existing soil boring #19 as referenced in draft RFI report. Results from this sampling effort will be captured in the final RFI. If no contamination is found above regulatory screening levels, site closure will be requested. If contamination is found, a risk assessment will be conducted to determine the need for corrective measures. Any remediation that is required is not covered under the GFPR contract.

SITE USE LIMITATIONS/LAND USE CONTROLS

Limitations on the future use of this site are dependent upon the final remedy.

REMEDIATION DOCUMENTATION

ARCADIS, Inc., November 22, 2005, Supplemental Investigation Work Plan for FTL-70, Fort Leavenworth, Kansas

ARCADIS, Inc., November 10, 2004, Revised Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

ARCADIS, Inc., August 3, 2004, Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

U.S. Army Corps of Engineers Kansas City District, August 1999, Directorate of Contracting DABT19-99-R-0002 Remove and Dispose of Aboveground Storage Tank

FTL-71
MCCLELLAN AVENUE MAINTENANCE SITE

SITE DESCRIPTION

This site is comprised of the hill and valleys on either side of McClellan Avenue on the north end of the installation. The site centers around Building 89 which is a former typewriter repair shop.

This site was placed into the program after carbon tetrachloride was found at the west edge of FTL-15, which is just east of the site. Since the carbon tetrachloride had not been found in any other samples from FTL-15, it was assumed that this material came from a different source. The source is expected to be found somewhere along McClellan Avenue, which is hydraulically upgradient from the location where the carbon tetrachloride was detected. Past activities in this area included a maintenance shop, vehicle maintenance facility and veterinary clinic. Building 85, which is currently the main administrative building for the Directorate of Installation Support, is reported to have been a vehicle maintenance shop at one time. Building 86, which was a riding arena, is currently a vehicle maintenance facility. Building 88 has been a Veterinarian Clinic since it was built in the early 1900s. Fire Station Number 1 is located at the south end of this area. Carbon tetrachloride was historically used in early chemical fire extinguishers.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
RFA	199801	199912
CS	200110	200112
RFI/CMS	200201	200610
DES	200611	200709
CMI(C)	200710	201009

RC DATE: 201009

ARCADIS prepared a work plan and submitted in 2004 and conducted a Phase I site investigation starting in October 2004 through December 2004 to determine the potential source(s) and extent of carbon tetrachloride in the vicinity of McClellan Avenue. A Phase II site investigation work plan was submitted in November 2005.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE
This site is part of the Fiscal Year 2004 option to the ARCADIS contract, which was funded in January 2004. A Phase I remedial field investigation was performed and completed by ARCADIS in December 2004. ARCADIS has prepared an additional work plan to address groundwater impacts in the vicinity of well 15MW15. The initial investigation showed that groundwater impacts appeared to be limited to this area. The work plan identifies the installation of additional monitoring wells.

Based upon the results of the field investigations, a draft RFI report will be prepared. If contamination is found, a risk assessment will be conducted to determine the need for corrective measures. Any remediation that is required is not covered under the GFPR contract.

SITE USE LIMITATIONS/LAND USE CONTROLS
Limitations on the future use of this site are dependent on the final remedy.

REMEDIATION DOCUMENTATION
ARCADIS, Inc., November 4, 2005, Supplemental Investigation Work Plan for FTL-71, Fort Leavenworth, Kansas

ARCADIS, Inc., August 31, 2004, Final RCRA Corrective Action Work Plan Part II: Site-Specific Work Plans, Fort Leavenworth, Kansas

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FORT LEAVENWORTH

INSTALLATION RESTORATION PROGRAM

RESPONSE COMPLETE SITE DESCRIPTIONS

FTL-01
INACTIVE SANITARY LANDFILL

SITE DESCRIPTION

This site is located on property managed by the United States Penitentiary Leavenworth, Bureau of Prisons, which is part of the United States Department of Justice. The site was accessed by traveling south from the end of Biddle Avenue and to a point about halfway between the property boundary and the prison.

During the 1940s, the prison excavated two trenches. Wastes, including some that today are classified hazardous and empty containers from both the Prison and Fort, were placed in the trenches. The majority of the hazardous waste was waste paints, solvents, heavy metals, and petroleum products. Once the trenches were full, they were covered with the clay excavated from the trenches.

In the early 1990s, the Bureau of Prisons hired George Butler Associates, Inc. to evaluate the prison for contamination. They conducted a test dig of one trench to determine its contents. The results from the investigation found that the trenches were dug into and covered with clay that exceeded KDHE remedial construction standards. KDHE approved the Prison's plan for leaving the buried waste in place. The Bureau of Prisons maintains the site.

STATUS

REGULATORY DRIVER: CERCLA - Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Organics, Metals, PCBs

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198802
SI	199102	199204
RI/FS	199204	199305
RD	199305	199405
RA(C)	199605	199701

RC DATE: 199701

INACTIVE STATUS JUSTIFICATION
This site was placed into the Fort Leavenworth Restoration Program after an AEHA survey that was tasked with identifying all potentially contaminated sites. The site was identified because Fort Leavenworth contributed some of the waste in this site, thereby making Fort Leavenworth the responsible party. This site is on Bureau of Prisons land, which is also part of the Federal Government. They have assumed all responsibility for the restoration of this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Geosystems Engineering, Inc. & George Butler Associates, Inc., August 1991, Volume I Task 1 Report – Preliminary Site Investigation Hazardous Waste Site Remedial Investigation U.S.P.

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

USAEHA, March 1986, Groundwater Potential Contamination Survey No. 38-26-0916-86

FTL-14
USED OIL TANK NEAR BUILDING 86

SITE DESCRIPTION

This tank was located on the west end of the Vehicle Maintenance Shop parking lot. This lot is located to the north of Building 86, which is located on Biddle Avenue. The building has and continues to serve as a vehicle maintenance shop. The site had a 500-gallon steel underground storage tank, which was located under the asphalt in the parking lot.

The tank was installed in 1978. It was registered with KDHE as underground storage tank No. 23462U040. The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. The tank was removed in 1995 and the site closed clean as part of a Fort-wide underground storage tank project. The tank was replaced with an aboveground tank with concrete containment. Records for this work can be found in the storage tank files.

STATUS

REGULATORY DRIVER: RCRA-I

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs, Metals

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	198702	198806
DES	199212	199309
IMP(C)	199309	199506

RC DATE: 199506

INACTIVE STATUS JUSTIFICATION

This tank was closed per KDHE UST regulations. The resulting excavation was backfilled with clean material and the pavement restored.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-16, 17, 18, 50, 51
USED OIL SOLVENT TANK UST NEAR BUILDING 487

SITE DESCRIPTION

This site is located inside the US Disciplinary Barracks walls along the west side about 100 meters north of the junction with the south wall. The tanks were located in the grass-covered area between the Dry Cleaning Shop, Bldg 487, and Maintenance Shop, Bldg 468.

There were six tanks at this location. They were in two layers. The four tanks on the upper layer are identified as FTLs 15, 16, 17 and 18. The two tanks on the lower level that were discovered during the removal of the top four are number 50 and 51. The two lower tanks were removed in a separate removal action.

The EPA has consolidated all work at this site under the FTL-15 site description.

STATUS

REGULATORY DRIVER: RCRA-I Corrective Measures

RRSE: High

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	198702	198806
INV	198702	198806
CAP	198901	198906
DES	198907	198912
IMP(C)	199106	199111

RC DATE: 199111

The KDHE tank registration numbers were:

FTL-16 = 23462U037; FTL17 = 23462U038; FTL-18 = 23462U039; FTL-50 = 23462U043; FTL-51 =23462U044.

STATUS

These sites have been closed out. All future actions will be tracked by FTL-15.

REMEDIATION DOCUMENTATION

SEE FTL-15

FTL-19
SEWAGE LAGOONS

SITE DESCRIPTION

These lagoons are located in the northwest corner of the Fort where the boundary shifts about ½ mile to the east. They are located in a draw adjacent to the county road that marks the northern boundary of the Fort at this point. This area of this site is still known as the US Disciplinary Barracks (USDB) Farm, even though it closed in 1995.

The lagoons were constructed in 1980 to contain runoff from the USDB Farm pig raising operations. The facility consisted of an upper lagoon (No. 1), 75 x 120 x 17 ft deep and a lower lagoon (No. 2), 150 x 350 x 8 ft deep. The lagoons, historically classified as agricultural waste lagoons by KDHE, were used to treat livestock waste and waste from inmate living facilities. The lagoons are required to remain non-discharging.

STATUS

REGULATORY DRIVER: Clean Water Act

RRSE: NE

CONTAMINANTS OF CONCERN:
Sewage

MEDIA OF CONCERN:
Surface Water, Groundwater

COMPLETED IRP PHASE:
PA

Phases	Start	End
PA	198702	198806
RD	199201	199206
RA(C)	199209	199406

RC DATE: 199406

The lagoons were upgraded in 1993 by sealing the bottoms of the lagoons and installing irrigation equipment. The irrigation equipment was used to apply water from the lower lagoon to pastureland to the west. The purpose of the equipment was to increase evaporation and to maintain the non-discharge status.

In 1996, the USDB Farm closed and the lagoons were re-permitted to use only Lagoon No. 1 for sewage treatment of human wastes. The second lagoon still contains water.
The USDB Farm needed a sewage treatment facility since it was located a long way from the installation sewer system. This has changed with the construction of the new USDB on the north part of the old farm. The new prison is served by sewers, which will allow this system to be closed in the future. Although restoration is required, this site is still active and is not eligible for the Defense Environmental Restoration Program.

STRATEGY FOR FUTURE ACTIONS
KDHE Regulations will eventually require site closure if this system ever ceases operation. Closure will use funds given to the installation.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Burns & McDonnell Engineers-Architects-Consultants, April 1995, Groundwater Monitoring Report Oct 1994 Sampling Event

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Site Safety and Health Plan Groundwater Sampling Program

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Chemical Data Acquisition Plan Groundwater Sampling Program

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-21
SEPTIC TANK NEAR BUILDING 428

SITE DESCRIPTION

Building 428 is located on Sherman Drive just north of the USDB Greenhouse. The building is a small red brick structure currently housing Military Intelligence.
A search of historical drawings shows that the sewage system consisted of a tank to remove and digest solids and a pipe to discharge the resulting liquid into the seasonal creek to the west of the site.
The tank was installed when the building was constructed in 1920 as a radio transmitter facility. The tank was apparently abandoned in place when a sewer connecting the building to the Fort's sewage system was constructed in the late 1970s. There are no indications that the building was used for activities that would have contaminated the system.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Sewage

MEDIA OF CONCERN:
Surface Water, Groundwater

Phases	Start	End
PA.....	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

There is a good possibility that the tank and discharge pipe still remain. There is no reason to believe that these contain an environmental hazard that would keep this site in the active section of the restoration plan.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-22
SEPTIC TANK NEAR BUILDING 425

SITE DESCRIPTION

The Hunt Lodge is located south and west of the Fort Leavenworth NIKE Launch Site. The road to the facility runs west from the south side of the NIKE site. The tank was located on the west side of Hunt Lodge, Building 425. The tank and leachate field were located between the road and the hill to the west, approximately where the existing holding tank sits.

The tank was installed in 1919 when the building was constructed to house prisoners. The building was subsequently converted to a recreational facility. The septic tank was removed in 1989 after numerous complaints about the water logged drainage field. A Jet Aeration Package Plant discharged to the waterway to the west. The discharge from the aeration plant flowed off-post, which was a violation of the Clean Water Act. To correct the violation, the aeration system was replaced in 1991 with a holding tank that is periodically pumped by American Water Company crews.

STATUS

REGULATORY DRIVER: Clean Water Act

RRSE: NE

CONTAMINANTS OF CONCERN: Sewage

MEDIA OF CONCERN: Surface Water, Groundwater

Phases	Start	End
PA	198702	198806
RD	199001	199006
RA(C)	199103	199108

RC DATE: 199108

INACTIVE STATUS JUSTIFICATION

The environmental hazard identified by this site has been remediated; therefore, there is no reason for any future restoration activity at this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-25
OLD PESTICIDE BUILDING 234

SITE DESCRIPTION

This building is located on the east side of West Warehouse Road about halfway between McPherson Avenue and Organ Avenue. The building served as the Frontier Fix-it Store until 1998 and is now the Corps of Engineers Resident Office. This is a two-story brick structure about 30 x 60 ft long.

The building was constructed in 1903 and served as the Entomology Shop from 1960 to 1975. The 1983 study reported that about half the building was used for the storage and mixing of insecticides. The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. No further action has been taken on this site.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

EPA has expressed concerns about the use of this building. Findings from the existing Entomology Shop (FTL-24) will be used to evaluate the need for an investigation at this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System
United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-26
OLD PESTICIDE BUILDING 234A

SITE DESCRIPTION

This building is located on the east side of West Warehouse Road about halfway between McPherson Avenue and Organ Avenue. The building was located to the south of Building 234 against a retaining wall. The shed's west wall was apparently parallel with the east wall of Building 234.

The building served as a storage area for the Entomology Shop when Building 234 was the Entomology Shop. This building was a portable wooden shed that was located alongside Building 234 (see FTL-25). The shed was approximately 4 x 6 feet in size and was used to store bulk quantities of Malathion.

STATUS

REGULATORY DRIVER:
CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater

Phases	Start	End
PA	198702	198806

RC DATE: 198806

The 1983 report indicates that the shed was used from 1973 to 1976. The 1988 USATHAMA SWMU Report indicated the shed had been dismantled and removed prior to the survey. The building was used to store Malathion,
other pesticides and herbicides used by the Entomology Shop.

INACTIVE STATUS JUSTIFICATION

The portable shed has been removed. Malathion degrades fairly quickly, which would have eliminated any traces of the material. The area of this site would be investigated as part of any investigation of Building 234. There is no reason to maintain this as a separate site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-27
PAST PESTICIDE BUILDING 237

SITE DESCRIPTION

This building is located on the west side of West Warehouse Road, midway between Organ and McPherson Avenues. The building currently houses the DIS Roads and Grounds Section.

The building is approximately 60 x 240 ft. The 1983 USATHAMA Report identified this site as potentially being contaminated due to the storage of herbicides in the open bays from 1955 to 1975. The open bays referred to in the report were probably located in the northwest part of the building where materials are still stored today. There were no documented spills in the building.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

This building is still being used for industrial purposes and any possible contamination does not pose a significant hazard. There appears to be no justification for any environmental response at this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System
United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-28
CURRENT PESTICIDE BUILDING 93

SITE DESCRIPTION

The facility was located at the intersection of McPherson Avenue and West Warehouse Road on the northwest corner.

The building was a reinforced concrete structure approximately 10 x 10 x 6 ft high. The building was built in 1929 to store petroleum products used in the maintenance of the installation's railroad locomotives. It was used to store calcium cyanide from the 1950s until 1993. The last of the pesticide was shipped to a hazardous waste disposal facility in 1993. The building remained empty until it was demolished in 2000.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

Calcium cyanide breaks down in the presence of moisture so an investigation would not expect to find any trace of the material. There were no visible indications of contamination when the building was demolished. The lack of signs that significant spills occurred, combined with the limited use of the facility does not warrant a special investigation of this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-29
PAST PESTICIDE BUILDING 412

SITE DESCRIPTION

This building was located in the northwest corner of the Fort where the boundary shifts about ½ mile to the east. The building was located about 10 meters north of the county road and about 150 meters west of the access road off the Fort.

The building was constructed in 1938 and may have originally held petroleum products used to maintain the USDB Farm machinery. Sometime in the 1950s, the Farm started storing pesticides and herbicides in the building. Storage operations ceased in 1992 when it was replaced by a new facility conforming to current regulations. All chemicals in the building were characterized by the Fort's Environmental Office and shipped off-post as hazardous or special wastes. In 1989 the EPA Facilities Assessment directed that this site be investigated further. The building was demolished and all contamination removed in 1996 as part of an Interim Remedial Action for FTL-30. Final closure will be addressed under Site FTL-30.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198802
SI	198806	199310
RD	199310	199506
RA(C)	199510	199609

RC DATE: 199609

INACTIVE STATUS JUSTIFICATION

The building has been removed. Testing found no residual contamination. No further action is programmed for this site. See FTL-30 which was located adjacent to this site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-30
PAST PESTICIDE AREA NEAR BUILDING 413

SITE DESCRIPTION

This site is located on the old United States Disciplinary Farm along the north boundary of the Fort along the county road. The site is about 200 meters west of Building 424 that was the farm headquarters.

Building 413 was used for storage of herbicides and pesticides from at least 1970 until 1982, when it was demolished. The pad continued to be used as a mixing area until 1993 and was subsequently used to store and mix pesticides and herbicides after a new building was constructed. That building is currently used for the kennel of Military Police working dogs and is no longer used for the storage and mixture of pesticides and herbicides. Wastes from the pad were channeled to a small metal lined concrete trough that ran to a 1,000-gallon concrete holding tank located north of the pad along the road. The tank was pumped regularly and the wastes taken to the Fort Leavenworth Sanitary Landfills. The tank drained into a 2 feet by 2 feet catch basin that was filled with soil during the 1988 site visit. The 1988 AEHA report recommended that the site be investigated. In 1989, the AEHA report directed that this site be investigated further. O'Brien and Gere investigated the site from 1990 to 1993. The Final Contamination Report (1994) indicated pesticides were present in the sludges in the concrete holding tank and in the soils along the drainage channel at levels exceeding the Kansas Action Levels (KALs). Based on the results, the Army decided to perform a removal action at the site. Burns and McDonnell, Inc. finalized the removal action design specifications in 1994 and an Interim Remedial Action in 1996 cleaned up the site and removed the contaminated material.

STATUS

REGULATORY DRIVER: RCRA Corrective Measures Subpart C

RRSE: High

CONTAMINANTS OF CONCERN: Pesticides, Herbicides, SVOCs

MEDIA OF CONCERN: Surface Water, Soil

Phases	Start	End
RFA	198702	198806
CS	198806	199310
DES	199310	199506
CMI(C)	199510	200507

RC DATE: 200507

STATUS

The GFPR Contract funded all work on this site through closure. ARCADIS conducted additional site characterization to address data gaps (2003) and prepared a closure report. The closure report concluded that the site could be closed with no further land use restriction. The Statement of Basis (i.e. Decision Document) was finalized in June 2005. As part of the GFPR Contract option award, ARCADIS has begun 5-year warranty period starting on July 11, 2005.

FTL-30
PAST PESTICIDE AREA NEAR BUILDING 413

SITE USE LIMITATIONS/LAND USE CONTROLS
This site has been closed as a No Further Action (NFA) site, with no restrictions on future use.

REMEDIATION DOCUMENTATION
USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States, Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-30 – Past Pesticide Area

ARCADIS, Inc., February 3, 2004, Final (Revision 1) Closure Report FTL-30, Past Pesticide Area

ARCADIS, Inc., November 25, 2003, Final Closure Report FTL-30, Past Pesticide Area

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., August 28, 2003, Confirmatory Sampling Work Plan FTL-30, Past Pesticide Area

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Burns & McDonnell Engineers-Architects-Consultants, May 1995, Final Design Specifications Contract NO. DACW41-94-D-9002 Removal Action Old Pesticide Area Fiscal Year 1995

Burns & McDonnell Engineers-Architects-Consultants, May 1995, Final Design Analysis Contract NO. DACW41-94-D-9002 Removal Action Old Pesticide Area Fiscal Year 1995

Burns & McDonnell Engineers-Architects-Consultants, October 1994, Work Plan Removal Action Design Old Pesticide Area

O'Brien & Gere Engineers, Inc., January 1994, Contamination Evaluation of Specific Solid Waste Management Units - Final Report Volumes 1 through 7

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-31
CURRENT PESTICIDE BUILDING 399

SITE DESCRIPTION

The United States Disciplinary Barracks (USDB) Greenhouse was located on Sherman Drive just west of its intersection with Warehouse Road. The greenhouse complex consists of the greenhouse built in 1918 made with a steel frame and fiberglass panels and a boiler plant building built in 1919 constructed of brick and concrete.

The building was approximately 100 x 60 ft in size. Small quantities of pesticides were stored and mixed in the building. Mixing and formulation was done in a small area next to the storage cabinet in the east side of the greenhouse. This continued until 1993 when storage and mixing was moved to the new pesticide building at the USDB Farm. The Farm closed in 1995 and the mixing and storage functions were then transferred to the Entomology Shop in 1995. The greenhouse closed in 1998. The building was demolished in 2001.

STATUS

REGULATORY DRIVER:
CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

The small level of contamination that might have been present in this facility did not justify a special environmental investigation. Samples of the soil in the building were tested prior to demolition. No traces of pesticides were found.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

U.S. Army Corps of Engineers Kansas City District, August 1992, Golf Course Maintenance Building No. 84 Hazardous Materials Building USDB Greenhouse Buildings No. 398 & 399 Construction Solicitation and Specifications

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-32
PESTICIDE BUILDING 84

SITE DESCRIPTION

This site is the maintenance building for the Fort Leavenworth Golf Course. The building is accessed by a gravel drive going south from Pope Avenue. The drive entrance is located across the street from the Dental Clinic. The facility consists of a building approximately 80 x 20 ft. Pesticides are stored inside this building and are used to maintain trees and greens on the golf course.

The present building was constructed in 1981 on the same location as the original Building 84. Mixing was done on the rock parking lot next to the building until 1993 when a new concrete mixing pad was installed. The facility mixes pesticides and herbicides for use on the golf course.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pesticides, Herbicides

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

The USATHAMA survey of Fort Leavenworth determined that this site had the potential to have an environmental impact. There are no indications that this facility has significant contamination.

INACTIVE STATUS JUSTIFICATION
This site is not in the restoration program since the facility remains in use today.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

U.S. Army Corps of Engineers Kansas City District, August 1992, Golf Course Maintenance Building No. 84 Hazardous Materials Building USDB Greenhouse Buildings No. 398 & 399 Construction Solicitation and Specifications

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-33
WASH RACK BUILDING 262

SITE DESCRIPTION

This site is located in Building 262, Transportation Motor Pool (TMP), which is on the north end of Riley Avenue. This building is located at the southwest corner of the TMP area. The building is approximately 180 x 60 ft. The wash rack is indoors. It is possible the west end of this building has been used as a wash rack since its construction in 1905

The site was documented by the 1988 USATHAMA SWMU Study. The study found that the facility discharged to the storm sewer and stated that it should have an NPDES Permit. The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. An oil water separator was installed in 1993, and the drain was connected to the sanitary sewer.

STATUS

REGULATORY DRIVER:
CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806
RD	199201	199206
RA(C)	199210	199306

RC DATE: 199306

INACTIVE STATUS JUSTIFICATION

No further restoration program investigation is needed since this is an active facility and discharges to the sanitary sewer.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-34
WASH RACK BUILDING 431

SITE DESCRIPTION

This indoor wash rack was in a facility known as the USDB Car Wash. The building was located at the intersection of McPherson Avenue and Bluntville Loop Road. The building is approximately 20 x 60 ft. The wash rack is indoors and discharges into the sanitary sewer.

Building 431 was originally constructed as a Post Exchange Service Station in 1927. The building served as a service station until 1955, when Building 350 (FTL-67) replaced it. Building 431 then became a car wash staffed by USDB prisoners. The discharge from this building originally went into the storm sewer, but it had been changed to the sanitary sewer by 1988. An oil/water separator was installed in 1993. Activities at the car wash ceased in 2001. The building is currently being used as a storage facility for the Ft. Leavenworth Fire Department.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806
RD	199201	199206
RA(C)	199210	199310

RC DATE: 199310

INACTIVE STATUS JUSTIFICATION

No further restoration program investigation is needed due to the low potential for release to the environment and since this building is connected to the sanitary sewer.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-35
WASH RACK BUILDING 571

SITE DESCRIPTION

This facility was located north of the Post Exchange Shoppette in the area now occupied by the gasoline dispensers. The wash rack was a hand wash indoor system with no grit chamber or oil/water separator and discharged to the storm sewer system.

This facility was demolished in 1985 when the present Post Exchange Service Station was constructed.

The 1988 USATHAMA SWMU Study lists the site and expressed a concern that it discharged directly into Corral Creek. The 1989 Draft RCRA EPA Facilities Assessment indicated that this site had a low hazard potential and did not require investigation.

STATUS

REGUALTORY DRIVER : CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198302	198306
RA(C)	198401	198412

RC DATE: 198412

INACTIVE STATUS JUSTIFICATION

This site is closed. No further restoration program investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-36
WASH RACK BUILDING 132

SITE DESCRIPTION

Building 132, an aircraft hangar, is located at Sherman Army Airfield at the intersection of Chief Joseph Loop Road and Sheridan Drive.

There were no formal washing areas in the hangar bays; however, there was a trench drain on the west end of each hangar where airplanes were washed. Each hangar is approximately 100 feet by 120 feet. The hangars were constructed in 1932. Originally, aircraft were also washed on the ramps around the building. The wash operations were later moved inside the hangars where the wastewater discharged into the sanitary sewer. The site was documented by both the 1983 and 1988 studies. The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. The south hangar was equipped with an oil/ water separator in 1992 and the north hangar was equipped in 1993, with both systems now discharging into the sanitary sewer.

STATUS

REGULATORY DRIVER:
CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806
RD	199101	199106
RA(C)	199110	199309

RC DATE: 199309

INACTIVE STATUS JUSTIFICATION

This is an inactive facility with drains that connect to the sanitary sewer. No further restoration program environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-37
WASH RACK BUILDING 86

SITE DESCRIPTION

This site is inside Building 86, which is located at 811 McClellan Avenue. The wash rack is located at the west end of the building on the south side. The building is approximately 220 x 100 ft. The building houses the DIS Vehicle Maintenance Facility.

This building was constructed in 1886 as a riding arena. It was converted to a motor vehicle maintenance building, probably in the 1920s. The 1983 study found that the wash rack discharged in to the sanitary sewer. A 1988 study found that the facility did not have an oil/water separator. The wash rack was equipped with an oil/water separator in 1994 that discharges to the sanitary sewer.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806
RD	199501	199502
RA(C)	199503	199506

RC DATE: 199506

INACTIVE STATUS JUSTIFICATION

No further restoration program environmental investigation is needed due to the low potential for release to the environment and since this facility discharges to the sanitary sewer.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-38
WASH RACK BUILDING 305

SITE DESCRIPTION

This outdoor wash rack is located at the Fort Leavenworth Recycling Center at the corner of McPherson Avenue and Riley Avenue. The wash rack is located on the north side of the building on the east side of the facility. This outdoor wash rack has a grit chamber, an oil/water separator, and discharges into sanitary sewer system.

Building 305 was constructed in 1908. The wash rack was probably constructed in the 1950s or 1960s. It was used to wash equipment before it went into the maintenance shop formerly located in this building. The 1983 and 1988 Studies both discuss this site. This facility was the DEH maintenance shop until 1990. The wash rack is not currently used. The rack met all applicable regulations and was well maintained.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

No further restoration program environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-39
WASH RACK 496

SITE DESCRIPTION

This wash rack was located on the east side of Building 496, which was the USDB Auto Body Repair Shop.

This facility was probably constructed about 1967 and was referenced in 1983 and 1988 studies. The washing of vehicles stopped prior to 1986. The oil/water separator associated with this site was removed in 1993 as part of the contract to remove the last two tanks at the USDB Dry Cleaning Shop (FTL-50 and FTL-51). The site was closed clean using underground storage tank procedures.

The buildings located at this site were removed in 2003. The site was completely demolished in 2005 as part of the Castle Demolition contract.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Surface Water

Phases	Start	End
PA	198702	198806
SI	198806	198806
RI/FS	199406	199506
RA(C)	199406	199506

RC DATE: 199506

INACTIVE STATUS JUSTIFICATION

The facility has closed. There are no signs of contamination that would indicate any significant amounts of contamination. No further restoration program environmental investigation or action is necessary.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-40
WASH RACK, TRASH TRUCKS, BLDG 237

SITE DESCRIPTION

This wash rack is located on the north side of Building 237. Building 237 houses the DIS Roads and Grounds Shop and is located on the west side of West Warehouse Road between McPherson Avenue and Organ Avenue. The wash rack was constructed for the washing of trash trucks.

The building was constructed in 1903. The wash rack was constructed and put into operation about 1980. It was built for the daily washing of trash trucks that is required by Army Regulations and drains into the sanitary sewer. This facility was discussed in both 1983 and 1988 studies. The wash rack is currently in operation.

STATUS

REGUALTORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs, Organics

MEDIA OF CONCERN: Surface Water

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

No further restoration program environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-41
INCINERATOR BUILDING 344

SITE DESCRIPTION

The incinerator was located in Building 344, Munson Army Hospital Boiler Plant, in the rear of the building. It was manufactured by Alamo Destructor and was a Model IGS-IP. It was used for incinerating pathological/infectious wastes.

The incinerator was installed when Munson Army Hospital was constructed in 1961. It began operation shortly thereafter. This site is mentioned in a 1988 study, which indicated the incinerator stopped processing excess controlled pharmaceuticals in 1979.

The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. It was removed in 1993 during a renovation of the hospital. The site is not eligible for the Defense Environmental Program since it was inside the building.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Pathological, Infections, Controlled Pharmaceutical Wastes

MEDIA OF CONCERN:
Surface Water, Soil

Phases	Start	End
PA	197802	197806
RA(C)	197901	197912

RC DATE: 197912

INACTIVE STATUS JUSTIFICATION

The incinerator has been removed. Any waste would have been contained inside the building and would have been sent to the one of the sanitary landfills on the Fort. This site will be considered closed clean unless future work at the site finds indications of problems.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-42
INCINERATOR BUILDING 111

SITE DESCRIPTION

The incinerator is located in Building 111, Bell Hall, in Room 90. The incinerator was manufactured by Joseph Goder, Inc. and is a Model 450-1-N, Class 3. This unit was used to destroy classified documents. The ash was sent to the sanitary landfill.

The original incinerator was installed in 1959 when Building 111 was built. The original incinerator suffered several accidents and was replaced with the present unit. A 1988 study documented this site. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. Incinerator operations were shut down in November 1994. The unit remains in place.

The site is not eligible for the Defense Environmental Program since the incinerator was located inside the building. Bell Hall is scheduled for demolition in the year 2007. The incinerator will be closed in accordance with all environmental regulations.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: Pathological, Infections, Controlled Pharmaceutical Wastes

MEDIA OF CONCERN: Surface Water, Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

This unit is fully exposed in the building and does not pose a significant hazard to the environment. Should the unit resume operations, an Air Permit would be required and the ash would need to be TCLP tested. The site will be removed in 2007 with the demolition of Bell Hall.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-43
INCINERATOR BUILDING 111

SITE DESCRIPTION

The incinerator was located in Building 111, Bell Hall, in Room 310. The incinerator was manufactured by Joseph Goder, Inc., and is a Model 150-1-N.

The incinerator was installed in 1959 when the building was constructed, and operated until the early 1980s when it was removed from service. The unit has not been used since. A 1988 study documented this unit. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.
This site is not eligible for the Defense Environmental Restoration Program since it is located inside the building.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

A search of the building in 2005 was not able to locate this incinerator. It was apparently removed in years past.

INACTIVE STATUS JUSTIFICATION

The site will be removed in 2007 with the demolition of Bell Hall.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-44
INCINERATOR BUILDING 632

SITE DESCRIPTION

This incinerator was located in the old commissary that was located on the west side of Grant Avenue and north of Iowa Street. This is the southeast corner of the current Hoge Hall. The unit was used to reduce about 700 tons per year of corrugated paper boxes. The ash was sent to the sanitary landfills.

The commissary building was built around 1942 as part of the World War II expansion. The Incinerator was probably installed at that time. It continued operating until the new commissary was opened in 1984. The incinerator, along with the building, was demolished in August 1984. The site was listed in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.

STATUS

REGULATORY DRIVER: CERCLA-Inactive
RRSE: NE

CONTAMINANTS OF CONCERN:
Ash, Metals

MEDIA OF CONCERN:
Soil

Phases	Start	End
PA	197702	197806
RA(C)	198001	198012

RC DATE: 198012

INACTIVE STATUS JUSTIFICATION

This unit has been removed and substantial amounts of soil from the site were relocated during the construction of Hoge Barracks. Most contaminated material was removed during demolition and sent to one of the landfills currently under investigation. No further environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might remain at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-45
INCINERATOR BUILDING 136

SITE DESCRIPTION

The incinerator was located at the rear of Building 136, Directorate of Information Management. Building 136 is located on the west side of Biddle Boulevard between Kearney Avenue and Pope Avenue. The incinerator unit was located on the west side of the building on the north side of the loading dock area. The ash from this operation was sent to one of the sanitary landfills.

The incinerator was installed in the 1960s to destroy classified documents (10 tons in 1976). The unit operated until the early 1980s when it was replaced by document shredders. The site is mentioned in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Ash, Metals

MEDIA OF CONCERN:
Soil

Phases	Start	End
PA	198702	198806
RA(C)	199502	199510

RC DATE: 199510

The unit was removed in 1995 due to the deterioration of the unit's casing. The deterioration raised concerns about the exposed asbestos being released to the environment. The unit was taken to a sanitary landfill and buried as asbestos waste. The remaining ash was TCLP tested and shipped as a RCRA hazardous waste.

INACTIVE STATUS JUSTIFICATION

This unit was closed in compliance with all current environmental regulations using OMA funds. No further action is required.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-46
HAZARDOUS WASTE STORAGE AT BUILDING 279

SITE DESCRIPTION

This hazardous waste storage building is located near Building 279 in the yard that was used by DRMO. The building measures 18 x 12 feet. This building is used for hazardous waste storage. A hazardous waste contractor collects hazardous waste. The building is located at the north end of West Warehouse Road, at the bottom of the hill.

The building was constructed in 1985 and operated under a RCRA Permit until February 9, 2001. The building was closed clean under the RCRA Permit. It is now used as a less than 90-day storage facility.

The Defense Reutilization and Marketing Office (DRMO) at Fort Leavenworth operated this facility from 1985 until Feb 1998 when their operations at Fort Leavenworth closed.

STATUS

REGULATORY DRIVER: RCRA- C inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
RCRA and TSCA Hazardous Waste

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

The Fort Leavenworth Environmental Division now operates this facility. The site was listed in the 1988 study. The 1989 Draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. This site is ineligible for the Defense Environmental Restoration Program since it was operational after the 1990 cutoff.

INACTIVE STATUS JUSTIFICATION
This is an active facility that was closed in compliance with the RCRA permit. This site is not DERP eligible.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-47
MEDIA SUPPORT AREA BUILDING 77

SITE DESCRIPTION

Building 77, Training Support Center is located on the southeast corner of the intersection of Grant and Reynolds Avenues. These isolated buildings are located on the east side of Building 77 at the south end of the parking lot.

The buildings were probably constructed in the 1940s or 1950s to remove flammable materials from the main building. They originally stored substantial quantities of hazardous materials and were used as a satellite accumulation point for hazardous wastes for many years. Today, they hold only small amounts of hazardous materials. The buildings were discussed in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.

One of the buildings was removed in 2001. The remaining building is still in operation.

STATUS

REGULATORY DRIVER: CERCLA active

RRSE: NE

CONTAMINANTS OF CONCERN:
RCRA and TSCA Hazardous Waste

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION
There are no signs of any significant contamination caused by past operating practices. The materials stored in these buildings were primarily solvents that would have evaporated when spilled. RCRA Regulations require any new spills to be cleaned up as soon as possible. Prior to the buildings being demolished, a survey should be performed to reconfirm the low hazard classification of these buildings.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-48
SEWAGE TREATMENT SYSTEM BUILDING 138

SITE DESCRIPTION

Building 138 is located on Chief Joseph Loop Road on the northeast side of the levee that surrounds Sherman Army Airfield. The treatment unit was located on the south side of the building towards the rear of the property. The plant was designed to treat 5,000 gallons of waste per day. Wastewater was discharged onto the floodplain to the east.

The buildings were constructed in 1960 and originally used a septic system for sewage disposal. The mission of the buildings was expanded in 1980 when a second floor was added and offices constructed. This required additional sewage treatment capacity. The site was found to be unsatisfactory for additional septic tank capability so a package aeration system was installed. The package system was operational until 1992. The erratic operating schedule of the facility made compliance with the terms of the NPDES permit unobtainable. This was corrected by converting the system into a holding tank that was pumped into a tank truck on a regular basis. The sewage was then dumped into the Fort sanitary sewer system for treatment. This continued until 1998 when the building was abandoned. The site was reported in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. The building and sewage treatment facility was demolished in February 1999.

STATUS

REGULATORY DRIVER:
CERCLA- Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Sewage

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198702	198806
SI	198806	198807

RC DATE: 199809

INACTIVE STATUS JUSTIFICATION

The unit treated sewage from the building. There were no industrial operations in the building that would have contributed hazardous chemicals to the unit. The treatment unit was removed in 1998. There were no indications that anything other than sewage passed through this unit. No further environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-49
HAZARDOUS WASTE STORAGE BUILDING 829

SITE DESCRIPTION

Building 829 is located at the NIKE Kansas City 80 Launch Site. The building is located east of the fenced area going to the launch pits. The building was originally constructed to service the rockets used in the NIKE program. The building measures 20 x 50 ft. This site was the original "conforming storage facility" for RCRA wastes.

The building was constructed in 1959 to fuel the NIKE missiles. It was used from 1985 to 1986 for hazardous waste storage. Contamination was found after all the wastes were removed. The site was cleaned and closed under RCRA regulations. The site is listed in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. This site is not eligible for the Defense Environmental Restoration Program because the site is inside a building.

STATUS

REGULATORY DRIVER: RCRA-C Inactive
RRSE: NE

CONTAMINANTS OF CONCERN:
RCRA Waste

MEDIA OF CONCERN:
Soil

Phases	Start	End
RFA	198702	198806

RC DATE: 198912

INACTIVE STATUS JUSTIFICATION

The site has been remediated and closed under RCRA regulations. Hazardous materials are no longer stored in the facility. There is no requirement for any further action.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-52
USED OIL TANK BUILDING 109

SITE DESCRIPTION

Building 109 was the Directorate of Community Activities (DCA) Automotive Craft Shop. The building is located on the west side of McClellan Avenue several hundred feet south of the intersection of McClellan Avenue and Bluntville Avenue. The 500-gallon, steel waste oil tank was located on the south side of the building.

The building was constructed in 1901. The installation date of the original tank is not known, but may have been prior to 1940. The tank was in use until 1990 when it was removed and the site closed clean. A new double wall fiberglass tank was installed in the same location. The site is identified in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. The new double-wall, fiberglass tank was removed in November 1998, and the site closed clean.
This site is not eligible for the Defense Environmental Restoration Program since it was in use in 1990.

STATUS

REGULATORY DRIVER: RCRA I-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Organics, Metals

MEDIA OF CONCERN:
Soil

Phases	Start	End
ISC	198702	198806
DES	199001	199006
IMP(C)	199010	199109

RC DATE: 199109

INACTIVE STATUS JUSTIFICATION

The original tank that was initially identified in the early reports was removed and the site closed clean per KDHE regulations about 1990. Subsequent actions pertaining to a new tank installed at the site were done under RCRA UST Regulations. The new tank was removed in November 1998, and the site was closed clean.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Environmental Remediation and Consulting, February 1994, Environmental Operations, Inc. Project #4654 Project Close-out Report Stoddard Solvent Tank Removal

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-53
USED OIL TANK BUILDING 471

SITE DESCRIPTION

This tank was located between Buildings 485 and 471 in the USDB. Building 485 was a body repair shop and Building 471 was an automotive repair shop. The tank was probably installed to receive waste oil from an oil/water separator that served the wash rack located between the buildings.

It is believed that the tank was installed in 1967, when the auto repair shop was constructed. The tank was removed in 1993 as part of the project to remove the tanks at FTL-50 and FTL-51. The site was closed clean using underground storage tank closure regulations. The site was identified in a 1988 study. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.

STATUS

REGULATORY DRIVER: RCRA-I Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Organics, Metals

MEDIA OF CONCERN:
Soil

Phases	Start	End
ISC	198702	198806
INV	198806	198807
IMP(C)	199303	199310

RC DATE: 199310

This site is not Defense Environmental Restoration Program eligible since the site was in use after 1989.

INACTIVE STATUS JUSTIFICATION
The tank was closed clean per KDHE regulations. No further action is required.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Environmental Remediation and Consulting, February 1994, Environmental Operations, Inc. Project #4654 Project Close-out Report Stoddard Solvent Tank Removal

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-54
USED OIL STORAGE, BUILDING 132

SITE DESCRIPTION

Building 132, an aircraft hangar, is located at Sherman Army Airfield at the intersection of Chief Joseph Loop Road and Sheridan Drive. Waste oil was reported to be stored in the south hangar. Each hangar is approximately 100 feet by 120 feet with a drain at the west end. Waste oil was stored in 55-gallon drums at this site, until waste oil contractor removed the 55-gallon drums.

The hangars were built in 1932 and have been used to support air operations since that time. No records exist about past disposal practices. A 1988 study indicated the oil was stored in drums and removed by a used oil contractor at that time. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. In 1998, there were only two aircraft assigned to this airfield. The waste oil from these planes was placed in the waste oil tank at Building 86. All assigned aircraft were removed from Fort Leavenworth at the end of 1998. Currently, no government-owned aircraft is located at the airfield.

STATUS

REGULATORY DRIVER: RCRA- I Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs, Organics

MEDIA OF CONCERN:
Soil

Phases	Start	End
ISC	198702	198806
INV	198806	198807

RC DATE: 198807

INACTIVE STATUS JUSTIFICATION
There are no indications of significant spills at this location. No further environmental investigation is needed due to the low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION
Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-55
USED OIL STORAGE CITY AIRPORT OPERATION

SITE DESCRIPTION

The City of Leavenworth leases land south of Building 75 on Chief Joseph Loop Road for use as a municipal airport operation. There is one enclosed hangar on the north side that is used for aircraft repairs

The site was leased to the city, probably in the 1960s. The 1988 study found that Craig Aero, Inc. was the contractor running the operation. Used oil was stored in the hangar and disposed of by a used oil contractor. The contractor was generating about 500 gallons a year at that time. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation.

STATUS

REGULATORY DRIVER: RCRA-C Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs, SVOCs

MEDIA OF CONCERN: Soil

Phases	Start	End
RFA	198702	198806
CMI(C)	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

There are no signs of contamination from this operation in the hangar. The Army should do environmental testing in the future should the hangar be removed.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-56
FLYING CLUB USED OIL AND CONTAMINATED FUEL STORAGE AREA

SITE DESCRIPTION

Building 132, an aircraft hangar, is located at Sherman Army Airfield at the intersection of Chief Joseph Loop Road and Sheridan Drive.

The Flying Club has been in operation since the 1950s. They used the north hangar as their base of operations until the early 1980s when handball courts were built in the hangar, and locker rooms were built in the north wing. Waste materials were probably stored in the hangar until that time. The storage location found by a 1988 study was probably opened in the 1980s and closed in the mid 1990s. The 1989 draft RCRA EPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. The DCA Flying Club stored used oil and off specification fuel in drums located in the open area between the hangar and the north concrete pad used to park aircraft. The used oil was stored in 55-gallon drums and was picked up by a used oil contractor.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
VOCs
MEDIA OF CONCERN:
Soil

Phases	Start	End
PA	198702	198806

RC DATE: 198806

INACTIVE STATUS JUSTIFICATION

No further action is recommended since periodic reviews have found no signs of releases. No further environmental investigation is needed due to low potential for release to the environment and the small amounts of hazardous materials that might be found at the site.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System
United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

FTL-58
SKEET RANGE (ACTIVE)

SITE DESCRIPTION

The skeet range is located on the west side of Sheridan Drive just south of its intersection with McPherson Avenue. The site is approximately 750 x 500 ft in size.

This range opened in 1989. It is currently in operation and lead shot is used at the site. The site was added to this plan in 1992 to document the site for future remediation purposes.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	199306	199307

RC DATE: 199307

INACTIVE STATUS JUSTIFICATION

This is an active site and is not eligible for DERP funding. The use of lead shot makes this a contaminated area that will require remediation in the future using Operations and Maintenance Account Funding. A site investigation using OMA funds will be required when the facility closes or before any work is done in the impact area. The hill top location makes migration of lead from the site a possibility. Water drainages need to be tested occasionally to ensure that lead is not migrating from the site in violation of RCRA regulations. Periodic water testing should also be conducted to ensure that lead levels are not in violation of the Clean Water Act.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., April 2003, Firing Ranges and Associated Facilities

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

FTL-59
KINDER RANGE

SITE DESCRIPTION

Kinder Firing Range is located at the north end of North Warehouse Road on the west side. The firing range is used for both military and civilian weapons discharge. The range is approximately 750 x 500 ft in size and uses an earthen bluff as a backstop.

Kinder Firing Range probably opened in the 1950s as a replacement for the 5th Artillery Avenue Firing Range that was being closed due to housing construction. The range is still active today. The site was listed in the 1992 IAP as a means of tracking this site and documenting the remedial actions that will be required in the future.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Surface Water, Groundwater, Soil

Phases	Start	End
PA	198207	198303

RC DATE: 199704

INACTIVE STATUS JUSTIFICATION

This is an active firing range that is not eligible for DERP funding. Remediation using OMA funds will be required when the facility closes or before any work is done down range. Any excavation of the impact area at this range must address RCRA disposal rules for the removed material since it is expected to fail TCLP testing.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., April 2003, Firing Ranges and Associated Facilities

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

United States Army Environmental Hygiene Agency, February 1987, Interim Final Report, Hazardous Waste Consultation No. 37-26-1386-88, Evaluation of Solid Waste Management Units

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-61
TANK REMOVAL BUILDING 431

SITE DESCRIPTION

Building 431 is located at the intersection of McPherson Avenue and Bluntville Road. The building was the USDB Car Wash, but was originally the Post Exchange Gasoline Station. A tank vent was found on the west side of the building in 1993. The site was investigated as a UST.

The building was constructed in 1927 as the Post Exchange Service Station and served in this capacity until about 1957. A vent pipe was found on the side of the building in 1993. The site was remediated in 1995. The contractor determined the tank was steel and had been cleaned and filled with sand. The tank was legally closed. The tank was not removed due to its close proximity to the foundation of the building.

STATUS

REGULATORY DRIVER: RCRA –I Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	199306	199307
DES	199401	199409
IMP(C)	199409	199505

RC DATE: 199505

INACTIVE STATUS JUSTIFICATION

The tank should be removed if the car wash building is ever demolished. This work would be done using OMA funds.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

HDB Construction, Inc., May 1995, Closure Report Building 431 U.S. Army Corps of Engineers Underground Storage Tank Removal USACE Contract DACW41-93-D-0037 Delivery Order No. 0010

FTL-62
UNDERGROUND PROPANE TANK, USDB FARM

SITE DESCRIPTION

Building 424 is located on the northern part of the Fort just inside the 90-degree angle where the post boundary changes. The tank was located south of the building. It was used to store propane for heating the building. The tank probably leaked and was replaced by an aboveground tank.

The installation date of the tank is unknown. The tank was documented in the Installation Action Plan in 1992 to ensure that a record was kept of the site. The tank was removed in 1995 using OMA funds.

INACTIVE STATUS JUSTIFICATION

The tank has been removed and closed clean. No further response is required.

STATUS

REGULATORY DRIVER: CERCLA-Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
PA	199009	199009
RA(C)	199309	199506

RC DATE: 199506

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

FTL-64
REMOVAL UST BUILDING 264

SITE DESCRIPTION

Building 264 is located on the east side of the Transportation Motor Pool (TMP) yard. The building was used as a maintenance facility many years ago. The TMP is located at the north end of Riley Avenue. The tank was located on the south side of the building on the east. The actual use of the tank is not known; however, it is believed that it was used to store kerosene for cleaning equipment.

Building 264 was constructed in 1905, probably as a wagon shed. The building later became a vehicle maintenance facility, probably in the 1920s. The tank was discovered during the ECAS audit in August 1994. The site was investigated using OMA funds, and an empty old riveted tank was found. Employees working at the facility believe this tank may have held kerosene for a steam cleaner; however, this could not be confirmed. The tank was removed in October 1994 and the site closed clean.

STATUS

REGULATORY DRIVER: RCRA-I Inactive

RRSE: NE

CONTAMINANTS OF CONCERN: VOCs

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	199308	199309
IMP(C)	199406	199501

RC DATE: 199501

INACTIVE STATUS JUSTIFICATION

The tank has been removed and the site closed clean. No further action is required.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

Environmental Science and Engineering, Inc., March 1983, Installation Assessment of Combined Arms Center Report No. 327

FTL-65
POND IN FAMILY HOUSING

SITE DESCRIPTION

This pond is located at the south end of Hunt Road in the southwest corner of the Fort. The pond is very near the south property line that separates the Fort from the Federal Penitentiary at Leavenworth. There are houses near the northwest side of the pond. The pond is less than one acre in size, but with the surrounding area is about 3 acres in total area.

George Butler Associates, while investigating the Federal Penitentiary property for contamination in the early 1990s, found PCB in one fish tissue sample. The pond was subsequently closed to fishing and other recreational uses. The source of the contamination is unknown. The 1997 site investigation was directed towards finding the source of the contamination in the drainage ditches flowing into it. The study by Burns and McDonnell, Inc. found contamination on the railroad grade south of the pond, but not in the waterways to the pond.

STATUS

REGULATORY DRIVER: Clean Water Act

RRSE: High

CONTAMINANTS OF CONCERN: Metals, PCBs, SVOCs, VOCs, PAHs

MEDIA OF CONCERN: Surface Water, Sediment, Soil

Phases	Start	End
PA	199001	199207
SI	199709	200110
RI/FS	200111	200507

RC DATE: 200507

Based on the data collected during the Hazardous Waste Investigation and the Site Investigation, a work plan was developed by Burns and McDonnell to address the collection of additional data necessary to conduct a risk assessment at FTL-65. Fieldwork for this effort, comprised of collecting 10 surface water samples and sediment samples, was conducted in October 2000. No SVOCs, pesticides, or PCBs were detected in the surface water samples. No PAHs were detected at levels that exceeded the surface water screening criteria used, although two PAHs were present at levels that exceeded risk-based concentrations (RBCs) for tap water. Arsenic was the only metal detected that exceeded the surface water screening criteria used. Sediment samples were analyzed for SVOCs, pesticides, PCBs, and RCRA metals. No pesticides or PCBs were detected. Arsenic was the only metal detected in the sediments at a level exceeding its screening criterion. The plan was to also investigate and test the fish in the pond for bio-accumulated chemicals, but no fish were found.

This site became part of the Guaranteed Fixed-Price Remediation (GFPR) Contract with ARCADIS in 2002. ARCADIS completed additional site characterization activities (2002) including sediment sampling, surface water sampling and surface soil sampling.

STATUS

The GFPR Contract funded all work on this site through closure. Based on additional site characterization activities, ARCADIS prepared a baseline risk assessment and RFI report. The RFI report, which was finalized in 2003, recommended No Further Action for this site.

The Statement of Basis (i.e. Decision Document) was finalized in June 2005. As part of the GFPR Contract option award, ARCADIS has begun 5-year warranty period starting on July 11, 2005.

SITE USE LIMITATIONS/LAND USE CONTROLS

This site has been closed as a No Further Action (NFA) site, with no restrictions on future use.

REMEDIATION DOCUMENTATION

USEPA Region VII, signature date June 20, 2005, Final Statement of Basis United States Environmental Protection Agency Region 7, U.S. Army Combined Arms Center and Fort Leavenworth, RCRA ID No. KS4213720499, FTL-65 – Pond in Family Housing Area

ARCADIS, Inc., October 31, 2003, Final (Revision 1) RFI Addendum FTL-65, Pond in Family Housing Area

KDHE, October 29, 2003, Quarterly Report (July - September 2003) for DSMOA

ARCADIS, Inc., October 3, 2003, Final Characterization of Background Levels of Metals in Soil & Groundwater Tech Memo

ARCADIS, Inc., September 30, 2003, Final RFI Addendum FTL-65, Pond in Family Housing Area

ARCADIS, Inc., May 30, 2003, Background Soil Sampling Work Plan

ARCADIS, Inc., December 20, 2002, Final RCRA Corrective Action Work Plan Part I & II: Site-Specific Work Plans

ARCADIS, December 2002, Final RCRA Corrective Action Work Plan, Part I: Site-Wide Work Plan

ARCADIS, December 2002, Final RCRA Corrective Action Plan, Part II: Site-Specific Work Plans

ARCADIS, Inc., October 22, 2002, Final RCRA Corrective Action Work Plan Part I: Site-Wide Work Plans

Burns & McDonnell Engineers-Architects-Consultants, March 2002, Final Human Health Risk Assessment for the Pond in Family Housing (FTL-65)

Burns & McDonnell Engineers-Architects-Consultants, March 2002, Final Quality Control Summary Report 2000 Risk Assessment for the Pond in Family Housing (FTL-65)

Burns & McDonnell Engineers-Architects-Consultants, May 2001, Quality Control Summary Report 2000 Risk Assessment for the Pond in Family Housing (FTL-65)

Burns & McDonnell Engineers-Architects-Consultants, September 2000, Final Work Plan Addendum for the Risk Assessment for the Pond in Family Housing (FTL-65)

Burns & McDonnell Engineers-Architects-Consultants, August 1998, Final Site Investigation Report for FTL-65 Pond and Drainages

Burns & McDonnell Engineers-Architects-Consultants, September 1997, Quality Control Summary Report for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Background Samples

Burns & McDonnell Engineers-Architects-Consultants, August 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment B Quality Assurance Project Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment A Field Sampling Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment C Site Safety and Health Plan

Burns & McDonnell Engineers-Architects-Consultants, February 1997, Work Plan for Engineering Evaluation/Cost Analysis (4) Site Investigations (2) Six Sites Attachment D Quality Control Plan

FTL-67
UNDERGROUND TANKS OLD PX SERVICE STATION

SITE DESCRIPTION

These tanks were associated with an old PX Service Station, Building 350 that was located on the south side of Sedgwick Avenue just east of Building 314.

The service station was built in 1955, ceased operations in 1975, and was demolished in March 1986. The steel tanks at the site were removed, probably in 1985, and sent to DRMO for disposal. This site was identified in the Installation Action Plan in 1998 to document the site.

STATUS

REGULATORY DRIVER: RCRA- I Inactive

RRSE RATING: NE

CONTAMINANTS OF CONCERN: Petroleum Products

MEDIA OF CONCERN: Groundwater, Soil

Phases	Start	End
ISC	197001	197012
IMP(C)	198506	198512

RC DATE: 198512

INACTIVE STATUS JUSTIFICATION

The tanks were removed from the site. They were less than 30 years old. There are no records indicating that they found any contamination during removal. Any contamination at the site was probably minor. No further action is required at this site unless future work comes across significant contamination.

REMEDIATION DOCUMENTATION

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

IRP No Further Action Sites Summary

AEDB-R #	Title	Documentation/Reason for RC	RC Date
FTL-01	INACTIVE SANITARY LANDFILL	See site description	199701
FTL-14	USED OIL TANK NEAR BUILDING 86	See site description	199506
FTL-16,17,18,50,51	USED OIL SOLVENT TANK UST NEAR BLDG 487	See site description	199111
FTL-19	SEWAGE LAGOONS	See site description	199406
FTL-21	SEPTIC TANK NEAR BUILDING 428	See site description	198806
FTL-22	SEPTIC TANK NEAR BULIDING 425	See site description	199108
FTL-25	OLD PESTICIDE BUILDING 234	See site description	199806
FTL-26	OLD PESTICIDE BUILDING 234A	See site description	199806
FTL-27	PAST PESTICIDE BUILDING 237	See site description	199806
FTL-28	CURRENT PESTICIDE BUILDING 93	See site description	199806
FTL-29	PAST PESTICIDE BUILDING 412	See site description	199806
FTL-30	PAST PESTICIDE AREA NEAR BUILDING 413	SoB	200507
FTL-31	CURRENT PESTICIDE BUILDING 399	See site description	199806
FTL-32	PESTICIDE BUILDING 84	See site description	199806
FTL-33	WASH RACK BUILDING 262	See site description	199306
FTL-34	WASH RACK BUILDING 431	See site description	199310
FTL-35	WASH RACK BUILDING 571	See site description	199412
FTL-36	WASH RACK BUILDING 132	See site description	199309
FTL-37	WASH RACK BUILDING 86	See site description	198506
FTL-38	WASH RACK BUILDING 305	See site description	198506
FTL-39	WASH RACK 496	See site description	198506
FTL-40	WASH RACK, TRASH TRUCKS, BLDG 237	See site description	198806
FTL-41	INCINERATOR BUILDING 344	See site description	197912
FTL-42	INCINERATOR BUILDING 111	See site description	198806
FTL-43	INCINERATOR BUILDING 111	See site description	198806
FTL-44	INCINERATOR BUILDING 632	See site description	198012
FTL-45	INCINERATOR BUILDING 136	See site description	199510
FTL-46	HAZARDOUS WASTE STORAGE AT BUILDING 279	See site description	198806
FTL-47	MEDIA SUPPORT AREA BUILDING 77	See site description	198806
FTL-48	SEWAGE TREATMENT SYSTEM BUILDING 138	See site description	199809
FTL-49	HAZARDOUS WASTE STORAGE BUILDING 829	See site description	198912
FTL-52	USED OIL TANK BUILDING 109	See site description	199109

AEDB-R #	Title	Documentation/Reason for RC	RC Date
FTL-53	USED OIL TANK BUILDING 471	See site description	199310
FTL-54	USED OIL Storage, building 132	See site description	199701
FTL-55	used oil storage airport operation	See site description	198806
FTL-56	FLYING CLUB USED OIL AND contaminated fuel storage area	See site description	198806
FTL-58	Skeet Range (ACTIVE)	See site description	199307
FTL-59	KINDER RANGE	See site description	199704
FTL-62	UNDERGROUND PROPANE TANK, USDB FARM	See site description	199506
FTL-64	REMOVAL UST BUILDING 264	See site description	199501
FTL-65	POND IN FAMILY HOUSING	SoB	200507
FTL-67	UNDERGROUND TANKS OLD PX SERVICE STATION	See site description	198512

IRP Schedule

Initiation of IRP: 1979

Past Phase Completion Milestones

1979

- Installation Assessment (IA) — Apr

1988

- Update of Initial IA — Jul
- IR Program Plan — Nov

1992

- RCRA Facility Assessment — Mar

1995

- Nature & Extent Inv (Consent Order SWMUs) — May

1996

- Closure Plans (Consent Order SWMUs) — Sep
- RFI (Corrective Action SWMUs) (Phase I) — Oct

1998

- Interim Removal Actions — Dec

2000

- RCRA Permit — Jun

2002

- GFPR Award — Mar

2003

- Remedial Investigation at FTL Site 65 — Oct

2004

- Remedial Investigation at FTL Site 30 — Feb
- GFPR Option 1 Award for FTL Sites 03, 11, 24 & 71 — Feb
- GFPR Option 2 Award for FTL Sites 20, 60 & 70 — Mar
- Remedial Pilot Testing at FTL Sites 10 & 15 — Aug

2005

- Interim Remedial Action at FTL Sites 05 & 06 — Apr
- GFPR Option 2B Award for FTL Sites 08, 57 & 69 — Jun
- SoB for FTL Sites 02, 03, 04, 05, 06, 30 & 65 — Jun

2006

- Interim Remedial Action at FTL Sites 02 & 03 — Apr

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates:

FTL-02 20041206
FTL-03 20041206
FTL-04 20050430
FTL-05 20041206
FTL-06 20041206
FTL-07 20060430
FTL-08 20071031
FTL-10 20061130
FTL-57 20070731

Projected Construction Completion Date of IRP and Removal from NPL: ***n/a***

Schedule for Next Five Year Review: *Starting FY2010 (200912)*

Estimated Completion Date of IRP (including LTM phase): FY2041

Fort Leavenworth IRP Schedule

(Based on current funding)

AEDB-R #	SITE NAME	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTL-02	Inactive Landfill	CMI(C)									
		LTM									*203709*
FTL-03	Inactive Landfill	CMI(C)									
		LTM									*203709*
FTL-04	Inactive Sanitary Landfill	LTM									*203509*
FTL-05	Inactive Sanitary Landfill	LTM									*203509*
FTL-06	Inactive Landfill	LTM									*203509*
FTL-07	Inactive Sanitary Landfill	LTM									*203709*
FTL-08	Inactive Sanitary Landfill	LTM									*203809*
FTL-10	Old Fire Training Area/Burn Pit	CMI(O)									*203909*
FTL-57	Skeet Range (Inactive)	LTM									*204109*
FTL-70	Fuel Oil Leak Site at USDB	DES									
		CMI(C)									
FTL-71	McClellan Avenue	DES									
		CMI(C)									
PBC at Leaven.	GFPR Contract DACA45-02-C-0011	CMI(C)									*201609*

Prior Years Funds

Total Funding up to FY04: $22,859K

YearSite Information	Expenditure	FY Total
FY05		
FTL-02	2.7K	
FTL-03	3K	
FTL-04	3K	
FTL-05	3K	
FTL-06	3K	
FTL-07	3K	
FTL-08	2,215.785K	
FTL-10	176.429K	
FTL-11	1K	
FTL-15	1K	
FTL-24	1K	
FTL-29	1K	
FTL-57	1,481.17K	
FTL-60	1K	
FTL-65	3K	
FTL-69	176.235K	
FTL-70	1K	
FTL-71	1K	**$4077.32K**

Total Prior Year Funding up to FY05: $26,936.32K

Current Year Requirements

Year Site Information	Expenditures	FY Total
FY06	$193.571K	**$193.571K**

Total Requirements FY06:

Total Future Requirements: $5,556K

Total IR Program Cost *(from inception to completion of the IRP):* **$32,685.891K**

*Fort Leavenworth GFPR Contract No. DACA45-02-C-0011 Option 3 & 5 Package costs (CLINs) for FTL-10 & FTL-15, including United States Corps of Engineers Kansas City District (USACE KCD) associated contract management support costs, have been transferred and are currently captured in AEDB-R "PBC at Leaven." site.

FORT LEAVENWORTH

MILITARY MUNITIONS RESPONSE PROGRAM

MMRP Summary

AEDB-R Sites/Sites RC: 1/0

Different AEDB-R Site Types:
1 Small Arms Range

Contaminants of Concern: Munitions Constituents (MC)

Media of Concern: Soil

Completed REM/IRA/RA:
None

Identified Possible REM/IRA/RA:
RA at FTL-001-R-01

Total MMRP Funding:

Prior year funds (up thru FY05):	$ 25,000
Current year funding (FY06):	$ 679,497
Future Requirements (FY07+):	$2,333,000
Total:	**$3,037,497**

Duration of MMRP:

Year of IRP Inception:	2003
Year of RA Completion:	2017
Year of MMRP Completion:	2017

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

There is currently one site being tracked under MMRP. This former range was established about 1880 and used through 1960 for small arms training. This site extends to the south from 5th Artillery Road to just above Hunt Road, and is 374.86 acres. The area is now residential multi-family housing and undeveloped land. No munitions constituents (MC) are known to have been found during construction of the family housing. The direction of fire on the rifle range was from north to south. The range fan overlaps portions of the current operational property, and therefore only the portion of the rifle range and range fan south of Hatch Road that falls outside operational property is included. This range appears as four non-contiguous parcels of land.

This site was identified in 1997 when the Army requested information on all the old firing ranges on each installation. The site was identified in the 1998 Installation Action Plan; however, it was rejected by the Army Environmental Center as an IRP site since no chemical contamination had been identified. The site was placed into the Operation and Maintenance Account Program for FY 2002. Ecology and Environment, Inc. (E&E) completed a records search in 2003 to aid in identifying the location of historical firing ranges. Engineering-Environmental Management, Inc. conducted an inventory of closed, transferring and transferred range sites at Fort Leavenworth and issued a final inventory report dated October 3, 2003.

MMRP Cleanup Exit Strategy

The next action will be a geophysical investigation to identify potentially contaminated areas. A subsurface soil investigation plan will be produced based on the results of the geophysical investigation. A portion of this area is slated as potential Residential Construction Initiative (RCI) housing area. Land use controls will be determined after the investigation.

Previous Studies

2001

- Final Global Positioning System Survey and Geographical Information System, Ecology and Environment, Inc., Nov-01

2003

- Firing Ranges and Associated Facilities, Ecology and Environment, Inc., Apr-03
- Final Closed, Transferring and Transferred Range Site Inventory, Engineering-Environmental Management, Inc., Oct-03

2004

- None

2005

- None

FORT LEAVENWORTH

MILITARY MUNITIONS RESPONSE PROGRAM

SITE DESCRIPTIONS

FTL-001-R-01
5TH ARTILLERY ROAD FIRING RANGE

SITE DESCRIPTION

This site was formerly tracked as FTL-66. This former range was established in 1880 and used through 1960 for small arms training. This site extends to the south from 5th Artillery Road to just above Hunt Road, and is 374.86 acres. The area is now residential multi-family housing and undeveloped land. No MC is known to have been found during construction of the family housing. The direction of fire on the rifle range was from north to south. The range fan overlaps portions of the current operational property, and therefore only the portion of the rifle range and range fan south of Hatch Road that falls outside operational property is included. This range appears as four non-contiguous parcels of land.

STATUS

REGULATORY DRIVER: RCRA

RRSE: 5-Negligible

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200303	200310
SI	200601	200712
RI/FS	201210	201309
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

This site was identified in 1997 when the Army requested information on all the old firing ranges on each installation. The site was identified in the 1998 Installation Action Plan; however, it was rejected by the Army Environmental Center as an IRP site since no chemical contamination had been identified.

The site was placed into the Operation and Maintenance Account Program for FY 2002. Ecology and Environment, Inc. (E&E) completed a records search in 2003 to aid in identifying the location of historical firing ranges.

CLEANUP STRATEGY

MOVING THE SITE TOWARDS CLOSURE

The next action will be a geophysical investigation to identify potentially contaminated areas. A subsurface soil investigation plan will be produced based on the results of the geophysical investigation.

A portion of this area is under the Residential Construction Initiative (RCI) for housing areas.

SITE USE LIMITATIONS/LAND USE CONTROLS

Land use controls will be determined after the investigation.

REMEDIATION DOCUMENTATION

Engineering-Environmental Management, Inc., October 3, 2003, Final Closed, Transferring, and Transferred Range Site Inventory

Ecology and Environment, Inc., April 1, 2003, Firing Ranges and Associated Facilities

Ecology and Environment, Inc., November 2001, Final Global Positioning System Survey and Geographical Information System

MMRP Schedule

Initiation of MMRP: 2003

Past Phase Completion Milestones: PA - 200310

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates: None

Projected Construction Completion Date of MMRP: 2017

Schedule for Next Five Year Review: *None*

Estimated Completion Date of IRP (including LTM phase): 2017

Fort Leavenworth MMRP Schedule
(Based on current funding)

AEDB-R #	SITE NAME	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FLW-001-R-01	5th Artillery Road Firing Range	SI									
		RI/FS									
		RD									*201609*
		RA(C)									*201709*

Prior Years Funds

Total Funding up to FY04: $0K

Year	Site Information	Expenditures	FY Total
FY05	SI	$25K	**$25K**

Total Prior Year Funds: $25K

Current Year Requirements

Year	Site Information	Expenditures	FY Total
FY06	SI	$679.497K	**$679.497K**

Total Requirements FY06: $679.497K

Total Future Requirements: **$2,333K**

Total Program Cost *(from inception to completion of the MMRP):* **$3037.497K**

Community Involvement

REGULATORY INVOLVEMENT

Fort Leavenworth operates under a RCRA Permit (KS4213720499). The EPA issued the permit in June 2000. Since that time, EPA has formed a regulatory partnership with KDHE regarding issues related to the RCRA Permit and both regulatory agencies continue to work together on regulatory actions.

Fort Leavenworth has always had and still maintains an excellent working relationship with both regulatory agencies. This has benefited all parties with close coordination resulting in a team effort to move the program ahead with the goal of protecting human health and the environment.

PUBLIC INVOLVEMENT

Years ago, Fort Leavenworth personnel attempted to establish a Restoration Advisory Board. That effort resulted in less than a dozen people requesting information and only one participating in the meeting where we discussed the purpose of the boards. Public participation at public meetings involving environmental issues over the past few years has been sparsely attended. Recently, on May 3, 2005, EPA held a public meeting regarding the proposed cleanup plan for nine environmental restoration sites (FTLs 02, 03, 04, 05, 06, 13, 30, 65 & 68) at Fort Leavenworth. A total of three people not affiliated with the stakeholder agencies attended this meeting. No formal comments were submitted during this meeting, and no concerns with the proposed remedies for these nine environmental restoration sites were raised. Due to lack of public interest during this sixty (60) day public comment period held from April 4, 2005 to June 3, 2005, it was agreed upon all of the stakeholder agencies not to pursue at this time the establishment of a Restoration Advisory Board at Fort Leavenworth.

KDHE has requested that Fort Leavenworth make a better effort to publicize the availability of reports and decision documents being produced as part of the Restoration Program. The installation has an approved Community Relations Plan dated August 2002 that will guide these efforts.